RAILW E

THE STANDARD RAILROAD WEEKLY FOR ALMOST A CENTURY

TEMBER 1, 2

FREIGHT TRAFFIC ISSUE

TOTAL DISTRIBUTION THIS ISSUE — 20,300

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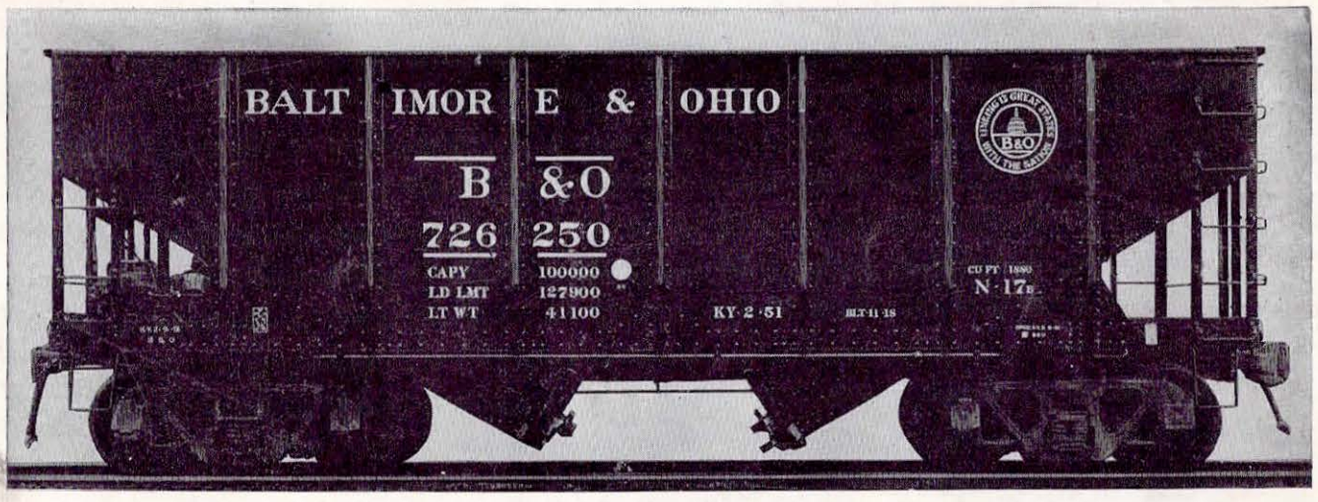
YOUNGSTOWN

is pleased to announce
the latest additions to its
family of car side units

Hopper car side unit
Gondola car side unit



HOPPER CAR SIDE UNIT

Rugged *Expert Workmanship*
Economical *Ready to Apply*

YOUNGSTOWN STEEL DOOR COMPANY

CAMEL SALES COMPANY • CAMEL COMPANY LIMITED
Cleveland • Chicago • New York • Youngstown

RAILROAD MEN, THEMSELVES WROTE THIS AD.

"Certainly"..."The necessity for improved Freight Car Cushioning..." "...appear absolutely necessary."

Here's what railway operating and claims prevention officials have to say about solving the lading damage problem (see *RR Age*, December 17, 1951, issue, page 44).

"Certainly, rough handling and hard riding cars are a real problem today."

"The necessity for improved freight car cushioning is emphasized when we consider the difficulty in eliminating overspeed impacts. Carriers have made little progress in this, even when we inaugurate speed checks in yards."

"Since we all have had such little success with overspeed impacts, it appears absolutely necessary that our equipment be improved with better draft gears."

"Our complaints (lading damage) have become more frequent with the advent of diesels and long, high-speed freight trains."

A.A.R. APPROVED unconditionally.

There is an answer to this problem. Equip all of your freight cars with Waughmat Twin Cushions and you'll definitely reduce both car and lading damage. Twin Cushions are service proven. Every user can point to lessened damage. Twin Cushions, the rubber double-action draft gear that never goes solid is the lowest cost big improvement you can make on any car. Can be easily applied to existing cars.

Write for our new brochure, THE CONQUEST OF IMPACT. It tells the story of Waughmat Twin Cushions.

WAUGHMAT *Twin Cushions*

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SAFE

MINER

power hand brake

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The bell crank and the length of brake chain are in accordance with A.A.R. recommendations.

NON-SPIN • QUICK RELEASE • GRADUAL RELEASE

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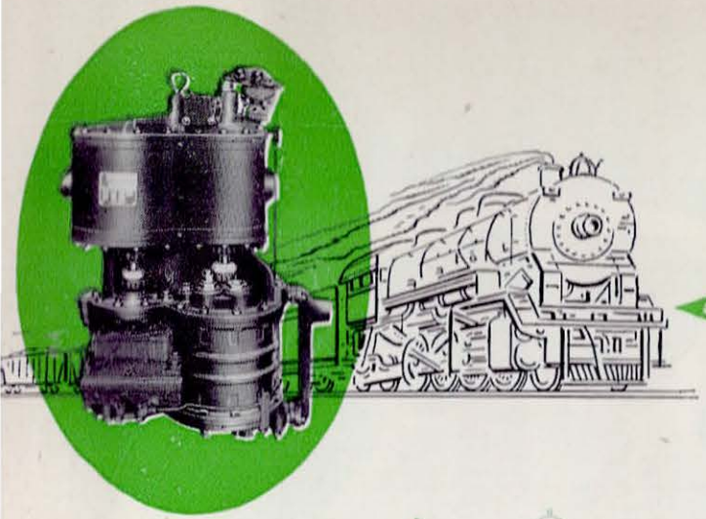
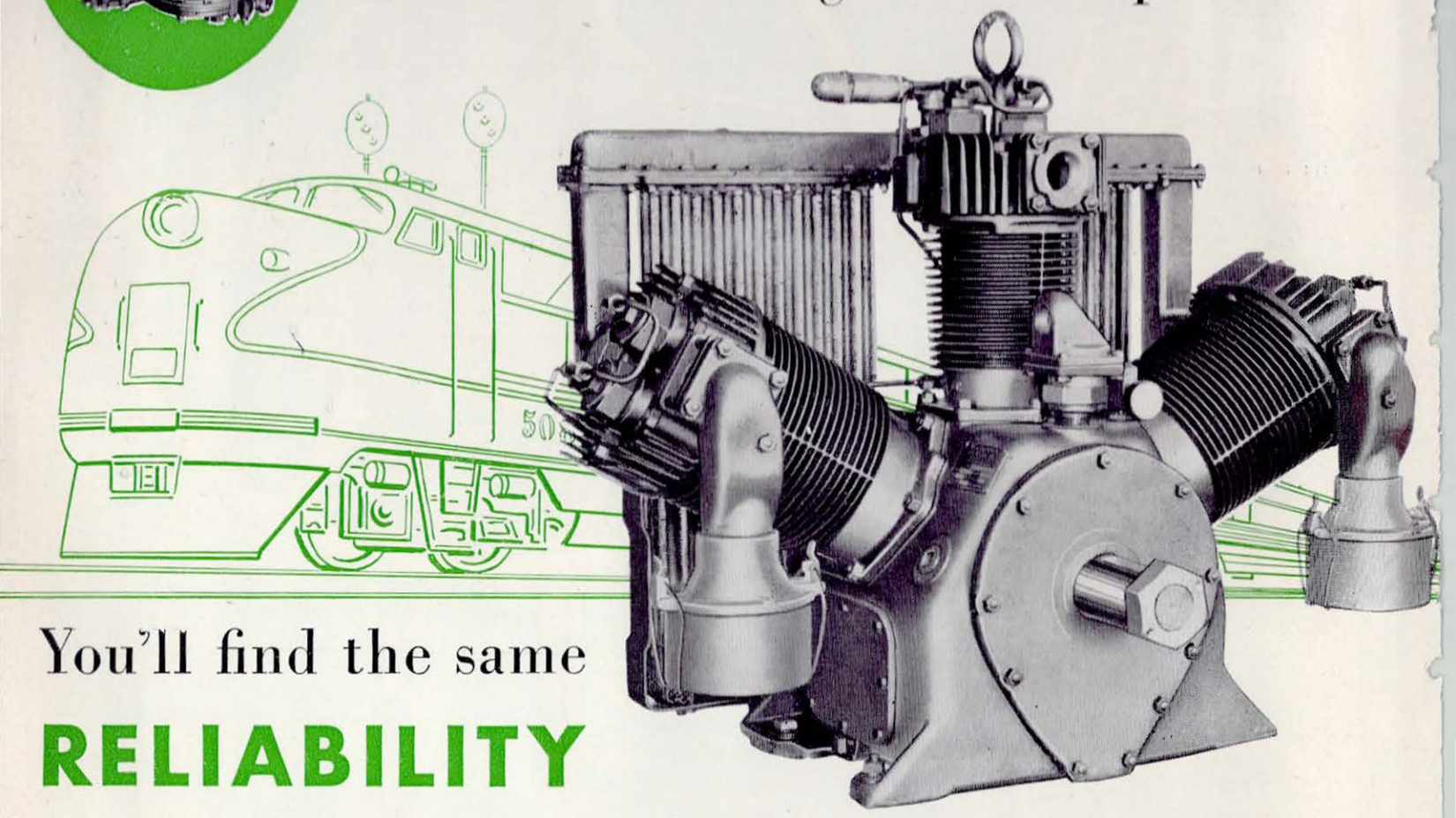


You know the

DEPENDABILITY

OF THIS

Westinghouse Compressor



You'll find the same

RELIABILITY

in the Westinghouse **CD** Compressor

When it comes to a reputation for dependability—it's hard to beat the one established by Westinghouse steam-driven air compressors. Tens of thousands are still chugging away on the sides of steam locomotives—and each is a guarantee of a positive, dependable air supply.

The same fine engineering that made this compressor such a completely reliable performer is behind the Westinghouse CD Compressor for Diesel service. Every feature that will contribute to dependability, efficiency, and trouble-free service has been included.

These include:

1) Radiator Type Intercooler between high pressure and low pressure cylinders. This reduces the temperature of the discharge air, and boosts efficiency.

2) Full pressure type lubrication system. A constant flow of filtered oil is maintained to connecting rod crankshaft bearings and wrist-pin bearings.

3) Cylinder wall and main crankshaft ball bearings are positively lubricated by a throw-off of oil from connecting rod bearings. Oil pressure relief valve "meters" the oil in accordance with compressor speed.

To give your new Diesel units a completely reliable air supply . . . use Westinghouse CD Compressors.

Westinghouse Air Brake Co.

AIR BRAKE DIVISION

WILMERDING, PA.

Brakes are Basic to Railroad Progress

Vol. 133, No. 9 September 1, 1952

RAILWAY AGE

With which are incorporated the Railway Review, the Railroad Gazette, and the Railway-Age Gazette. Name Registered in U. S. Patent Office and Trade Mark Office in Canada.

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Railway Signaling & Communications Car Builders' Cyclopedia Locomotive Cyclopedia
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FIRE EXTINGUISHERS

are your best buy!

● These fast, positive fire killers are easy to operate, compact, well-balanced and offer extensive maneuverability indoors or outdoors . . . no extra gadgets protruding or complicated operating parts. The outstanding mechanical breakage feature of C-O-TWO Dry Chemical Type Fire Extinguishers, plus continuous inert gas pressured agitation or fluffing, together with a skillfully blended free flowing dry chemical guarantee lasting, foolproof fire protection. All sizes are rechargeable on-the-scene by anyone . . . no special tools required.

C-O-TWO Dry Chemical is a finely pulverized powder . . . non-conducting, non-corrosive, non-abrasive, non-freezing and non-toxic . . . special compound consists of sodium bicarbonate and other chemicals skillfully blended to render high fire extinguishing qualities, remain free flowing while being used and withstand long periods of storage without deterioration. When brought into contact with fire, C-O-TWO Dry Chemical absorbs a greater part of the heat, decomposes and releases fire killing gases. This heat absorption process acts as an insulating screen for the fire fighter.

Fully approved and built to rigid specifications . . . C-O-TWO Dry Chemical Type Fire Extinguishers are exceedingly effective on flammable liquid, gas and electrical fires, as well as surface fires involving ordinary combustible materials . . . rated by Underwriters' Laboratories, Inc. and Factory Mutual Laboratories for class B and C fires.

Convenient 4, 20 and 30 pound hand sizes . . . no syphon tubes or valves within the cylinder to become clogged or inoperative . . . discharge hose and squeeze type discharge nozzle remain empty until actuation takes place . . . one piece removable top assembly.

Also, convenient 150 pound wheeled size . . . sturdy, wide-faced wheels . . . discharge hose and two position discharge nozzle having soft or solid stream fully enclosed in protection casing . . . footrail and dual bar handle provide easy inverting.

Act now for complete free information on these top quality fire extinguishers. Remember . . . you can't put fire off . . . fire doesn't wait. Get the facts today!

exclusive inverting design renders constant free flowing dry chemical, assuring faster, more effective and complete discharge

C-O-TWO FIRE EQUIPMENT COMPANY

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Sales and Service in the Principal Cities of United States and Canada

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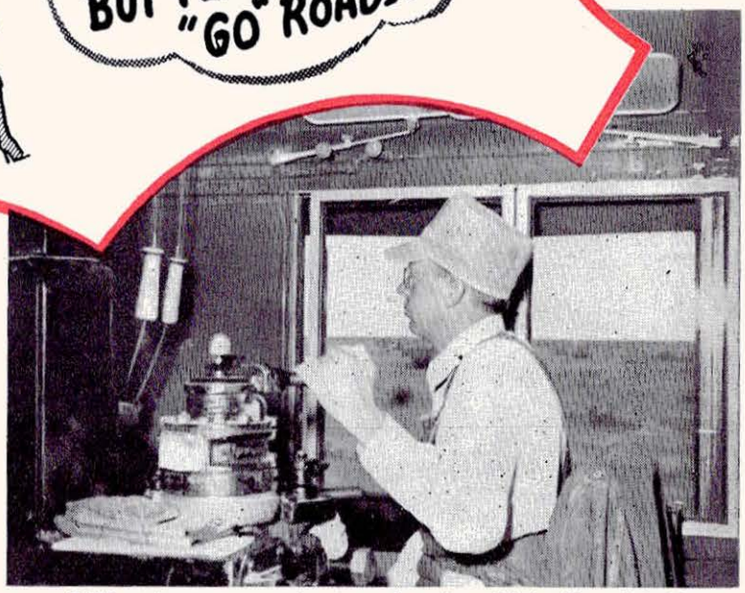
Squeez-Grip Carbon Dioxide Type Fire Extinguishers • Dry Chemical Type Fire Extinguishers • Built-In Smoke and Heat Fire Detecting Systems
Built-In High Pressure and Low Pressure Carbon Dioxide Type Fire Extinguishing Systems

THE TRANSCONTINENTAL CUT-OFF

A major two-system short direct route between Arizona-California and Wichita, Kansas City, St. Louis, Birmingham, Mobile, Pensacola, through irrigated West Texas.

Quanah ROUTE



QA&P engineers are experts at speedy and careful handling of freight strings. Most of them have come up within the Quanah Line organization.

- Fast schedules
- Ample motive power
- No congestion
- Automatic tracing
- Impact recorder tested
- A most direct route
- No large terminal delays

QUANAH, ACME & PACIFIC RAILWAY COMPANY

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QUANAH, TEXAS

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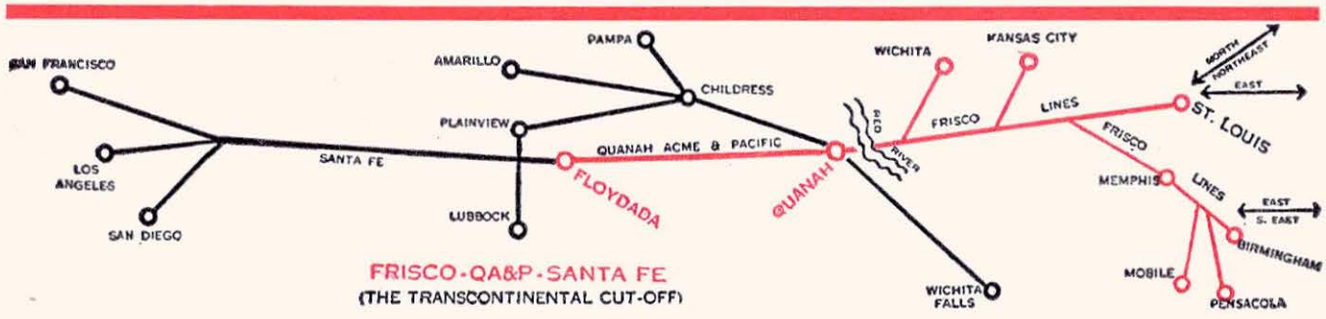
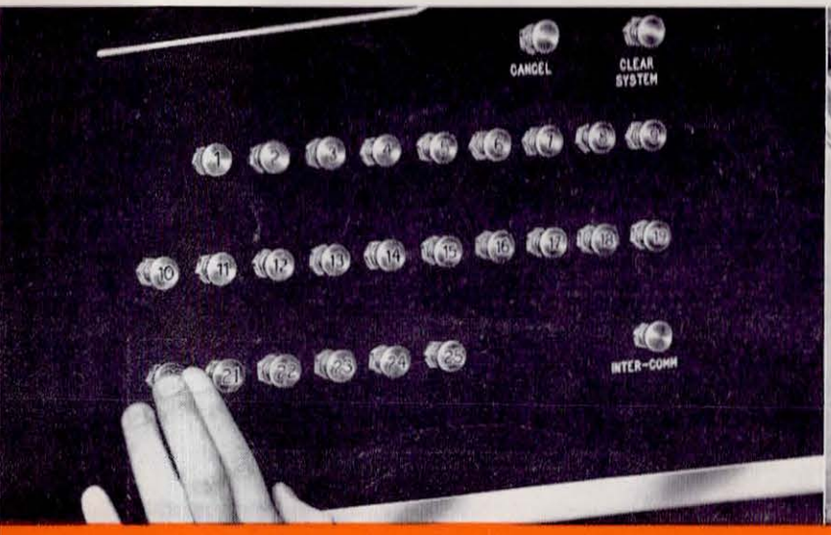


Here's a New High in Push-Button Classification with

"UNION" RETARDER SPEED CONTROL and AUTOMATIC SWITCHING

at Milwaukee's Air Line Yard



A button is pressed on this panel . . . to route a cut to the desired classification track.

and

"UNION" Automatic Switching correctly lines the switches as the car proceeds to its designated track.

Another button is pressed to control the speed at which the cut is to leave the retarder.

and

"UNION" Retarder Speed Control automatically brakes the cut to the speed selected.

and

. . . more effective, less expensive Classification Yard operation is the result.

UNION SWITCH & SIGNAL

DIVISION OF WESTINGHOUSE AIR BRAKE COMPANY

SWISSVALE PENNSYLVANIA

NEW YORK • CHICAGO • ST. LOUIS • SAN FRANCISCO

WEEK AT A GLANCE

CURRENT RAILWAY STATISTICS

Operating revenues, six months	
1952	$5,119,129,904
1951	5,035,567,042
Operating expenses, six months	
1952	$3,999,615,658
1951	3,964,143,107
Taxes, six months	
1952	$ 592,191,515
1951	572,438,812
Net railway operating income, six months	
1952	$ 441,832,593
1951	397,487,647
Net income, estimated, six months	
1952	$ 290,000,000
1951	260,000,000
Average price railroad stocks	
August 26, 1952	63.54
August 28, 1951	52.50
Car loadings, revenue freight	
33 weeks, 1952	23,092,923
33 weeks, 1951	25,363,785
Average daily freight car surplus	
Week ended August 23, 1952	6,780
Week ended August 25, 1951	4,354
Average daily freight car shortage	
Week ended August 23, 1952	7,772
Week ended August 25, 1951	17,852
Freight cars delivered	
July 1952	5,402
July 1951	5,290
Freight cars on order	
August 1, 1952	95,265
August 1, 1951	144,810
Freight cars held for repairs	
August 1, 1952	111,680
August 1, 1951	101,001
Average number railroad employees	
Mid-July 1952	1,182,485
Mid-July 1951	1,295,890

In This Issue . . .

MEXICO'S HISTORY may be old, but its railroads are going to be new, up-to-date, and efficiently modern upon completion of "Plan Aleman"—toward which long strides have already been taken. The general survey of Mexican railroads which begins on page 77 tells what has been, is being and will be done.

THE ANNUAL GRAIN RUSH is just about over, with the northwestern wheat harvest well past its peak. This year's movement was handled with relative ease; there are, moreover, some indications that the hectic annual grain "rushes," so long an integral part of western railroading, may soon lapse into history. Chief reason is erection of big country elevators. Further details are included in another monthly grain movement report which starts on page 90.

L.C.L. CAN BE MADE TO PAY ITS WAY, says Traffic Consultant A. M. Ribe, who has suggested a comprehensive plan to accomplish that result. Details of the plan itself were published, and some of them explained, in the August 4 Freight Traffic Issue. The explanation, specially prepared by Mr. Ribe for *Railway Age*, is continued and completed in this issue (page 83).

SHERMAN HILL, toughest westbound grade on the UP, is being whittled down to size in one of the biggest railroad construction jobs undertaken in this country in recent years. Reasons for the job, progress, and methods are detailed in the article beginning on page 86.

PROOF OF THE FACT that consistent, intelligent traffic sales effort pays off is the experience of the Quanah, Acme & Pacific. Only 120 miles long, serving sparsely settled territory, and faced with intense competition, it has nevertheless succeeded in heavily increasing its overhead traffic. The service and sales policies which have produced that result are outlined, beginning on page 92.

IT'S DEFINITELY NOT A SUBSTITUTE for tariff simplification—but as an interim short cut in use of existing tariffs, the C&EI's newest tariff publication, the "Fast Frater," seems to be winning well merited approval. The 100-page booklet is both described and illustrated on pages 99-100.

In Washington . . .

"THERE AIN'T GONNA BE NO CORE" seems to sum up the attitude of Riss & Co., Kansas City trucking firm which is seeking

WEEK AT A GLANCE

permanent authority to haul explosives on public highways, in asking that the I.C.C. grant its request but deny similiar authority to 23 other motor carriers. This paradoxical position was brought out in the Riss' brief, filed along with other briefs, in the explosives case (see news pages). Riss, incidentally, was the subject of a recent complaint to the I.C.C., in which the state of Ohio declared the company was guilty of widespread violations of Ohio laws.

MATERIALS FOR PRODUCTION of 33,000 freight cars, 936 locomotive units, 100 passenger-train cars and 450,000 tons of rail have been requested by D.T.A. for 1953's first quarter.

. . . And Elsewhere

ANOTHER INDICATION OF THE CONTINUING TREND toward diversification in the railway supply industry is the recent offer by Westinghouse Air Brake Company to purchase stock control of the Le Roi Company, of Milwaukee, manufacturer of internal combustion engines. If the purchase is consummated, it is understood that Westinghouse will retain Le Roi's name, organization, officers, employees, plant facilities and operations.

THE MISSOURI RIVER, which held the news spotlight last summer by causing one of the most disastrous floods in American history, is back "on stage" again. Only this time the act is different. The Mississippi Valley Barge Line has found it necessary to embargo freight by barge to all points on the Missouri because of low water!

"FAIR PROGRESS" in wage and rules negotiations between the Canadian railways and non-operating unions is reported from Ottawa. Present indications are that there will be no repetition of the Dominion wide railroad strike which virtually paralyzed Canadian transportation in August 1950, but the settlement is expected to force the railroads to apply for another increase in freight rates, in addition to the one they are now seeking. The railways, in anticipation of the unions' demands, have already warned the public and the Canadian government that any large wage concessions will mean a heavier burden on shippers and taxpayers.

HOWARD E. SIMPSON, traffic vice-president of the Baltimore & Ohio since February 1, 1947, has just been elected executive vice-president of the company, as briefly reported on page 55 of last week's Railway Age. *He is succeeded as vice-president — traffic, by J. W. Phipps, Jr., formerly general freight traffic manager — system. A biographical sketch of Mr. Simpson appears on page 26.*

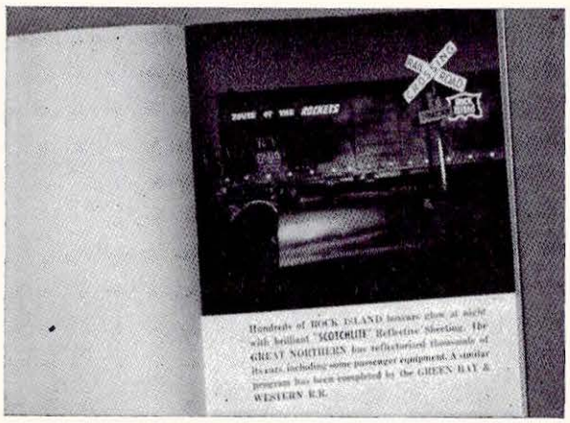
FIVE NEW SUBWAY LINES, with an aggregate length of some 100 km. (about 62.5 miles) are being considered as a means of relieving traffic congestion in the Japanese capital city of Tokyo. The new lines would reportedly be built by private companies over a 10-year period.

HELP WANTED! The National Safety Council is looking for persons who attended the first cooperative safety congress in Milwaukee in October 1912. The council, which is holding its 40th annual National Safety Congress in Chicago this coming October 20-24, wants to honor anyone who attended that first safety congress 40 years ago. If you were there or know anyone who was, write Paul Jones at the National Safety Council, 426 North Michigan avenue, Chicago 11. Incidentally, the council estimates that since this first convention, about 500,000 lives have been saved through organized promotion of safety practices. Even so, 94,000 persons were killed and 9,400,000 injured in 1951. The bill for last year's carelessness, the council estimates, was a staggering $7.9 *billion*!

This Railroad Sign and Signal Book will help your Safety Program!

Write for your free copy of "REFLECT AND PROTECT" today!

HOW TO INCREASE VISIBILITY of Restricted Speed signs, Slow Boards, Whistle Posts.



HOW TO REFLECTORIZE rolling stock for greater safety, better public relations, around-the-clock free advertising.

This book is a significant report on Railway Safety and Public Relations. It covers every application of "SCOTCH-LITE" Reflective Sheeting for railroad signs and signals.

Write for your copy now; learn how other roads have put this amazing material to work reducing accidents, improving the effectiveness and appearance of every kind of sign and signal. See how these roads have used the principle of reflectorization to "dress up" their rolling stock, build customer good will.

There is no obligation. Your copy of "REFLECT AND PROTECT" will be *mailed* to you unless you request that our representative call.

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Made in U.S.A. by Minnesota Mining & Mfg. Co., St. Paul 6, Minn.—also makers of "Scotch" Brand Pressure-sensitive Tapes, "Scotch" Sound Recording Tape, "Underseal" Rubberized Coating, "Safety-Walk" Non-slip Surfacing, "3M" Abrasives, "3M" Adhesives. General Export: 122 E. 42nd St., New York 17, N. Y. In Canada: London, Ont., Can.

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REFLECTIVE SHEETING

...Mark of PROGRESS in Railroading

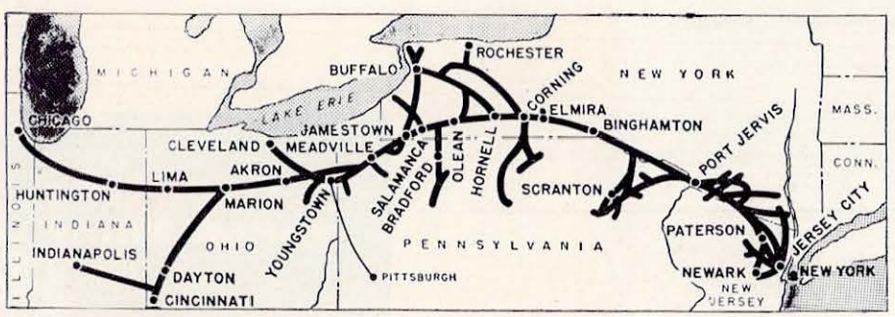
Why a railroad runs a navy

● You are looking at a diesel tug head-on as it shepherds a lighter in New York Harbor. The picture shows an activity of the Erie Railroad you probably aren't aware of—yet an operation that is just as important to you, to industry and our country's defense as railroading with locomotives, cars and tracks.

For Erie's navy of 257 boats takes over the job of providing complete and dependable transportation where Erie rails end on the shores of the Hudson River.

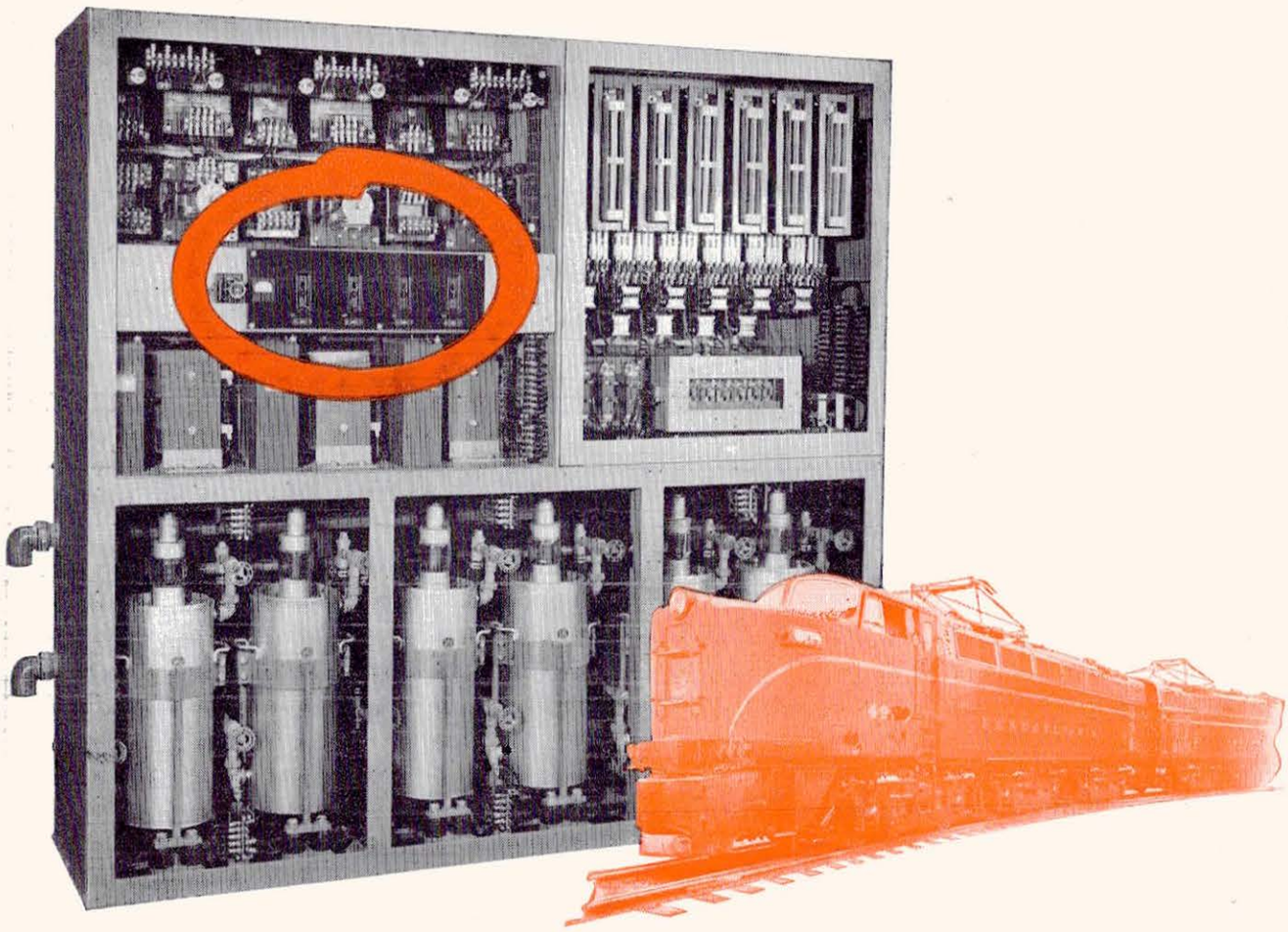
Whole train loads cross the Hudson on Erie car floats. Refrigerated or heated barges, lighters, floating cranes—a great assortment of boats—move food for New York's millions and the products of industry for domestic or overseas delivery. Erie's diesel tugs do the hauling, always in touch with shore by radio-telephone.

That's another chapter in Erie's role of providing complete, dependable transportation for both passengers and freight—one more reason why Erie has earned the reputation of one of America's most progressive railroads!



Erie Railroad

Serving the Heart of Industrial America



AB CIRCUIT BREAKERS protect circuits in two, new 6000-hp Ignitron Rectifier Locomotives

In freight service on the Pennsylvania Railroad, these two Westinghouse-built Ignitron Locomotives convert 25-cycle, 11,000-volt, a-c current to direct current for operation of conventional d-c traction motors.

Westinghouse AB Breakers' ability to carry harmless momentary or sustained overloads without circuit interruption is especially important in the operation of these locomotives. On heavy shorts or dangerous overloads, AB Breakers trip in ½ cycle or less.

All types of electrical circuits on these locomotives . . . from headlight switches to Ignitron Rectifiers . . . are protected with AB Circuit Breakers.

After a fault is cleared, service is restored in seconds with a simple flip of the AB Breaker handle . . . and safely. There's nothing to replace. AB Breakers are shock resisting and tamperproof; calibration stays exact for the life of the installation.

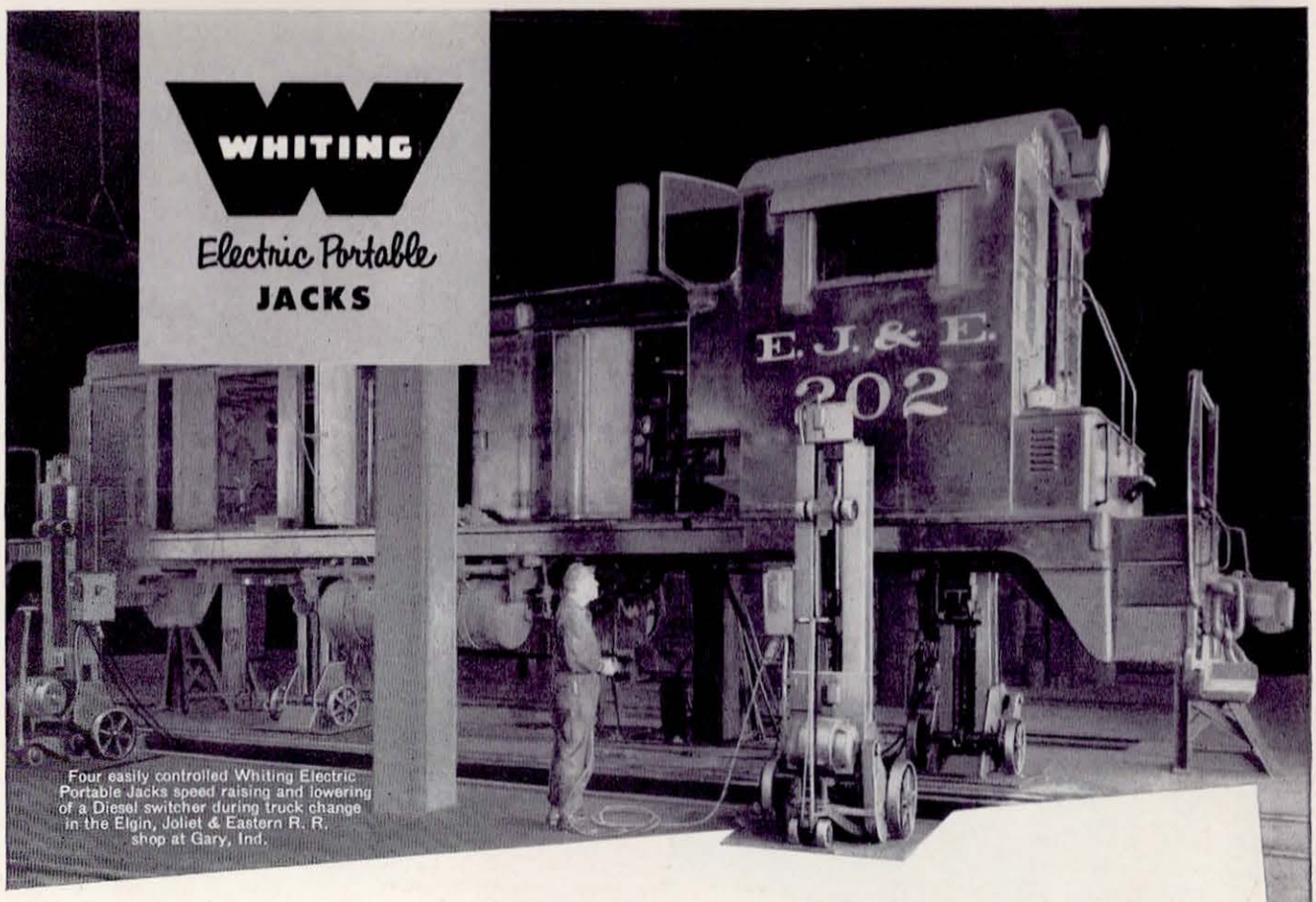
Apply AB Circuit Breakers wherever you need unfailing, reliable circuit protection. Call your Westinghouse Representative or write for B-5407, Westinghouse Electric Corporation, P. O. Box 2278, Pittsburgh 30, Pennsylvania. J-30113

DESIGN TESTED AND VERIFIED in the Westinghouse HIGH POWER LABORATORY

YOU CAN BE SURE... IF IT'S Westinghouse

AB CIRCUIT BREAKERS

THE COMPLETE LINE



Four easily controlled Whiting Electric Portable Jacks speed raising and lowering of a Diesel switcher during truck change in the Elgin, Joliet & Eastern R. R. shop at Gary, Ind.

Faster Overhaul for Switchers!

Keep switchers working . . . speed truck or wheel replacement with Whiting Electric Portable Jacks. Safe and powerful, these jacks handle the job easily and efficiently . . . time and manpower requirements are minimized. Used in sets of four, with interlocking control to permit operation of all jacks from one push-button station. Standard sizes have 25 or 35 ton capacity and 51" lift. Special heavier capacity models also available.

WHITING CORPORATION 15603 Lathrop Avenue, Harvey, Illinois

Sales offices and distributors throughout the world

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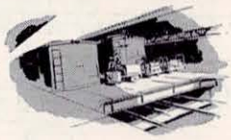
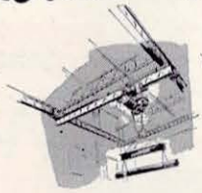
Body Supports

Drop Tables

LOOK INTO THESE WHITING PRODUCTS, TOO!



Cross-Over Bridges



Trambeam Overhead Handling

GET THIS BOOKLET, NOW!

Bulletin PJC-402 shows dollar-saving applications, gives complete information on Whiting Electric Portable Jacks . . . modern aids to improved shop efficiency!

we can help you...

Our 456 miles of diesel and electric-powered railroad making connections with all railroads to and from all points, provides direct-haul fast freight service to, from and through the industrial zones of St. Louis, the east side of the Mississippi River and Central and Eastern Illinois.

We serve directly—and exclusively—more than 250 industries on our own rails, and more than 3,500 others through reciprocal switching arrangements.

If your shipping business includes our territory investigate ILLINOIS TERMINAL service. Ask our man. Representatives in 21 key cities. WE CAN HELP YOU.

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by routing your shipments
via ILLINOIS TERMINAL

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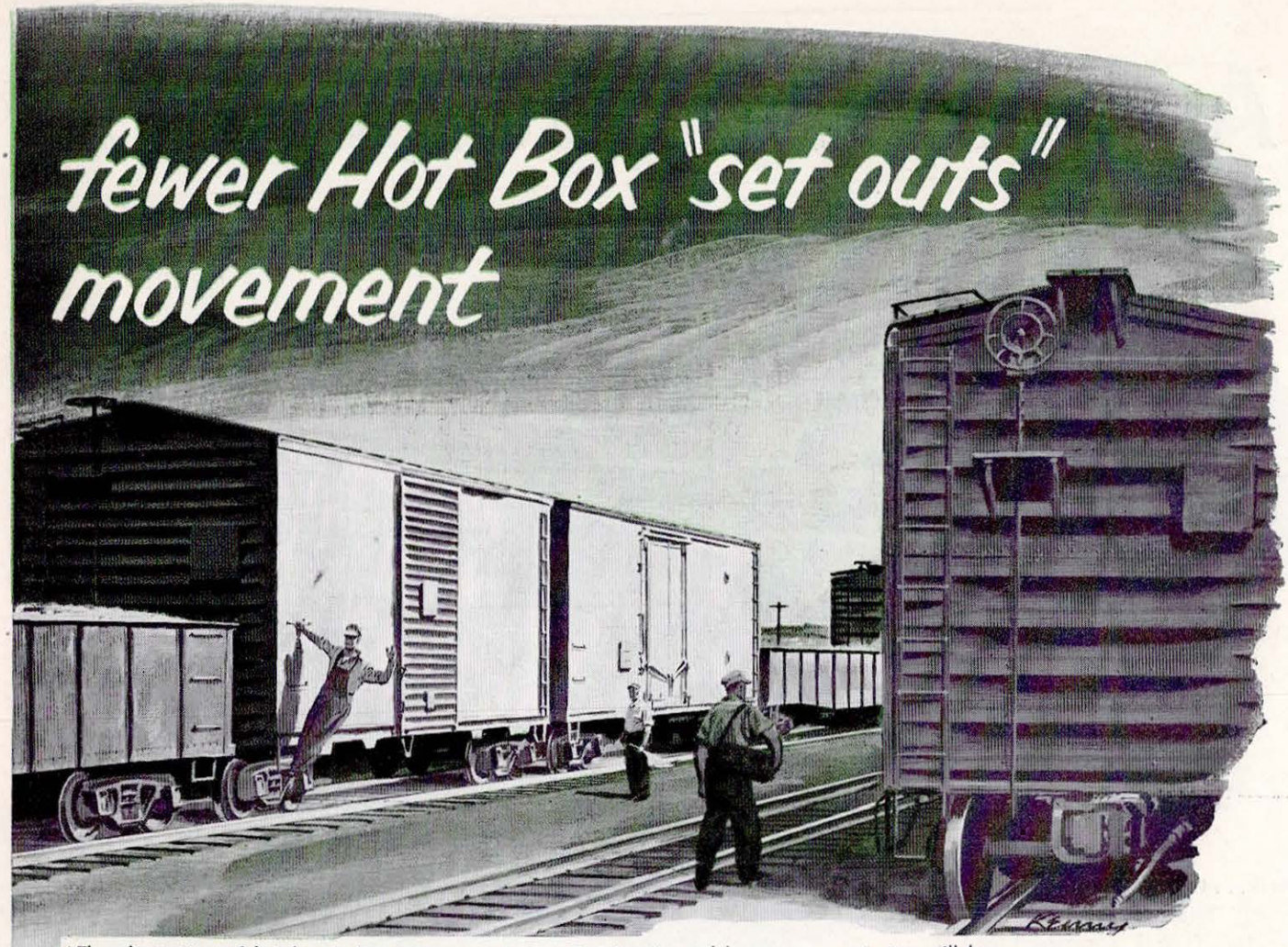
to delay freight
HYATT ROLLER BEARING JOURNAL

fewer Hot Box "set outs" movement



The elimination of hot boxes is a management problem—railroad officials and operating personnel all keep an eye on operating costs and they recognize that a great revenue eater is the expense resulting from hot boxes.

It is hard to pin down what the average hot box costs per "set-out" but some say $100—others $150 and still others say $200.

If freight cars are equipped with Hyatt Roller Bearing journal boxes—a great step will have been taken to wipe out a segment of unnecessary operating expense.

What are your needs? It is our suggestion that no railroad purchase of new freight cars be made until the outstanding advantages of Hyatt Roller Bearing Journal Boxes are fully explored. We will gladly serve you. Hyatt Bearings Division, General Motors Corporation, Harrison, N. J.

HYATT OFFERS EXTRA ADVANTAGES

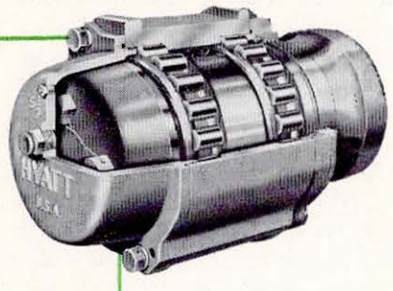
FREE LATERAL, a unique Hyatt design advantage, allows freedom of axle movement through the bearing, thus cushioning shocks, minimizing wear on wheels and truck parts, and insuring against damage to lading.

NO PRESS FITS TO BREAK when removing boxes for inspection.

REDUCED INVENTORY is possible because spare axles and wheels need to be fitted with only inner races and spacer sleeves.

STRAIGHT RADIAL ROLLERS of generous size provide for maximum load-carrying capacity and longer usable life.

SIMPLICITY OF DESIGN permits examination of all box and bearing parts with utmost freedom.



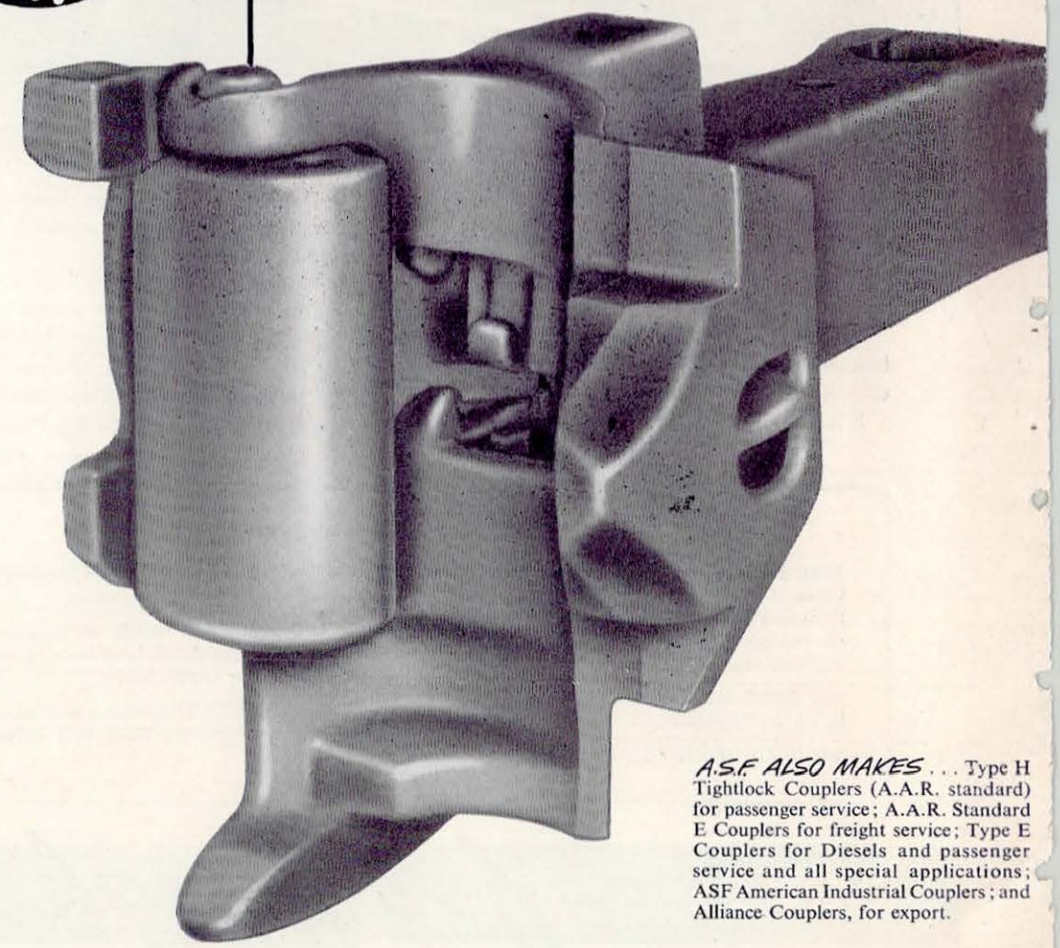
BOXES *for freight cars*

Anti-Creep protection!

ASF

Type F Interlocking Couplers

FOR FREIGHT SERVICE



Reduced . . . the danger of accidental uncoupling! The rotary locklift arrangement of the Type F (proposed A.A.R. standard) Interlocking Coupler gives *threefold* anti-creep protection.

First, a special overlapping toggle arrangement keeps the lock from jumping upward when there is vertical oscillation of the car. Second, this same overlapping toggle principle prevents unlocking when there is a run-in of slack combined with car bounce or coupler droop. Third, also in connection with run-in of slack and car bounce, the anti-creep shoulder of the rotor lever jaw strikes an abutment of the coupler head, for further protection.

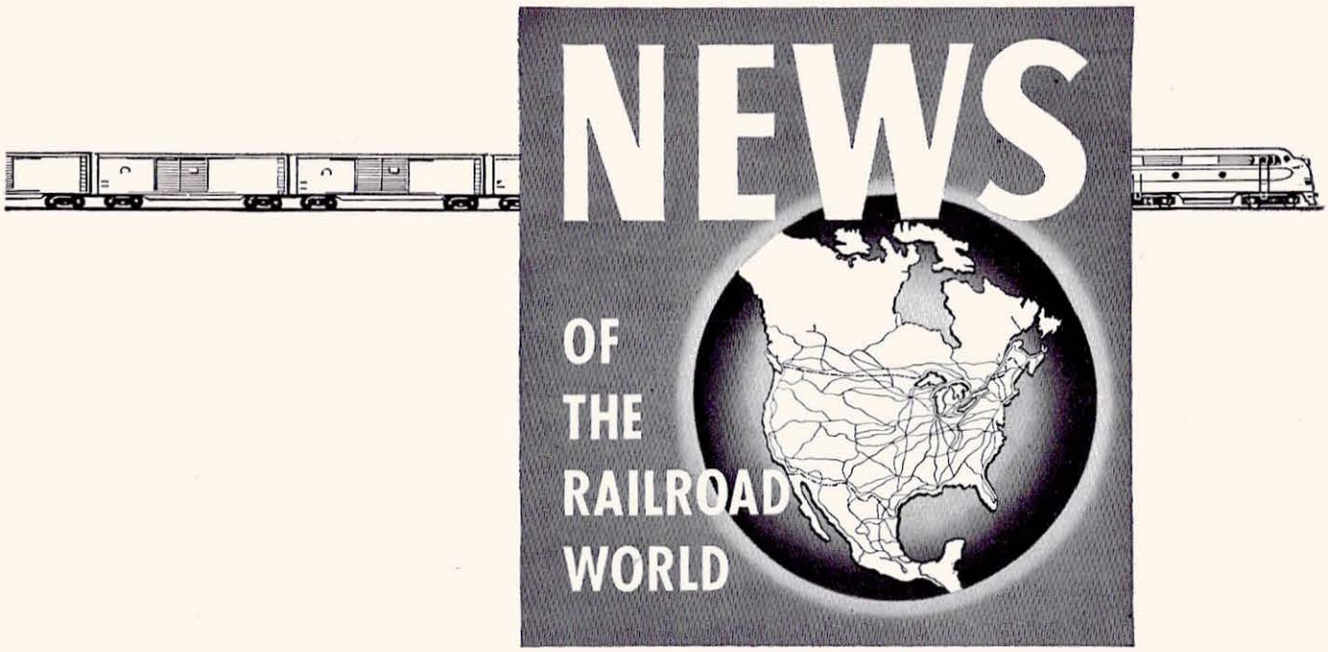
Ask for ASF folder C2! It illustrates and explains these features in detail. You'll want to investigate, then specify ASF-built Type F Interlocking Couplers for new freight cars.

A.S.F. ALSO MAKES . . . Type H Tightlock Couplers (A.A.R. standard) for passenger service; A.A.R. Standard E Couplers for freight service; Type E Couplers for Diesels and passenger service and all special applications; ASF American Industrial Couplers; and Alliance Couplers, for export.

AMERICAN STEEL FOUNDRIES

410 N. Michigan Ave., Chicago 11, Illinois • Canadian Sales: International Equipment Co., Ltd., Montreal 1, Quebec

Mint Mark of ⬡ Fine Products



Union Shop Negotiations On in East, Off in West

Union shop negotiations between the "non-ops" and the Eastern railroads continued last week, but meetings with the Western roads were in recess, "subject to call."

Highlighting developments in the negotiations was the release of letters which George E. Leighty, chairman of the "non-ops" conference committee, sent to President Truman and to D. P. Loomis, chairman of the Western carriers' conference committee.

Mr. Leighty charged that the unions have been getting a "run-around," particularly from the Western roads. He said both Eastern and Western carrier committees reported in June they had authority to settle the union shop dispute, but on July 31, Mr. Loomis advised him the Western committee lacked such authority. It was soon after this that meetings with the Western group were recessed.

Mr. Leighty found an "inconsistency" between the conduct of the carriers in this union shop dispute and their conduct in the recent wage-rules dispute with operating employees. In the latter, Mr. Leighty said, the carriers insisted that an emergency board report be followed to the letter, whereas, in the present case, "we cannot find out whether the carriers are willing to accept the board's recommendations." He added that, so far as the "non-ops" know, Southeastern carriers have taken no steps even to set up a committee for handling this dispute.

An emergency board was appointed by President Truman and investigated this union shop dispute between the carriers and the "non-ops." The board's report, handed down last February, recommended union shop agreements be made.

In his letter to President Truman, Mr. Leighty said the "non-ops" have been "extremely patient" but feel they "have about reached the end of the line." He charged the railroads with "arrogant disregard for the judgment of an impartial public tribunal."

"We are seeking nothing more than what an impartial tribunal appointed by you has said, after thorough investigation and full hearing, we are entitled to have. We cannot in good conscience accept less," Mr. Leighty said.

Court Keeps Trucked Gas On I.C.C. Danger List

A three-judge federal court recently upheld an Interstate Commerce Commission ruling that gasoline cannot be transported by a "general-commodities" trucker whose operating rights are restricted by an exception provision that prohibits carriage of "explosives and dangerous articles."

The three-judge court sat in the federal district court at Harrisonburg, Va., and its decision was dated July 15. The case was Civil Action No. 312, Houff Transfer, Inc., v. United States of America and the Interstate Commerce Commission. The commission's ruling was made as it passed upon a complaint wherein some of Houff's competitors alleged that the latter was transporting petroleum products in tank trucks in violation of its operating rights.

The Houff rights authorized transportation of "general commodities" except "explosives and dangerous articles." Houff admitted that it was transporting petroleum products, but insisted that it was authorized to do so under its "general commodities" authority. The commission rejected this contention and ordered Houff to drop the petroleum-transport operations. Houff then instituted the court proceeding out of which the present decision has come.

The decision not only upheld the commission's cease-and-desist order, but it went on to declare that the court did not propose to "supervise and amend" the commission's list of explosives and dangerous articles. The decision added, however, that the court did not mean to say that "under no circumstances" could an order of the commission be attacked as "unreasonable and arbitrary" where it forbids the transportation, as dangerous, of some article "conclusively proven to be harmless."

D.T.A. Seeks Allocations For 1953's First Quarter

Material for 33,000 freight cars, 936 locomotive units, 100 passenger-train cars and 450,000 tons of rail has been requested for the first quarter of 1953 by the Defense Transport Administration.

D.T.A. filed its "fully substantiated justifications" with the Defense Production Administration, the materials-control agency. Both D.T.A. and D.P.A. already are on record in support of a production level of 11,000 freight cars

monthly beginning October 1, 1952 (*Railway Age*, April 14, pages 12-13, and April 28, page 14). Also, a recent locomotive study by D.T.A. called for production of 312 locomotive units monthly, beginning October 1.

A request for material to cover inland waterway industry needs in 1953's first quarter also was filed by D.T.A. The agency is seeking material allotments to cover construction of 42 tugs, towboats and self-propelled vessels; 52 petroleum and liquid cargo barges; 151 dry cargo and general cargo barges; 30 railroad lighters and car floats, and eight miscellaneous craft.

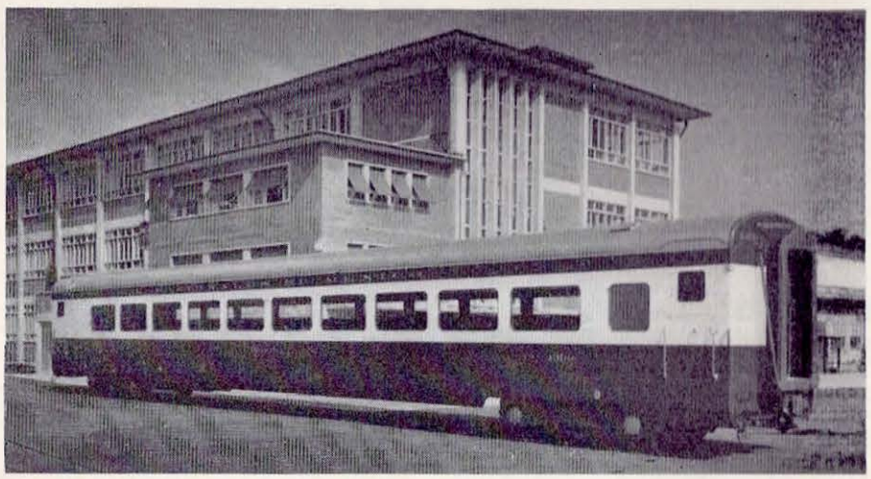
For maintenance, repair and operating materials, D.T.A. asked that D.P.A. approve the "full quantity" requested by individual railroads in their applications to the Railroad Equipment Division, National Production Authority.

WP Resumes Service After Tunnel Fire

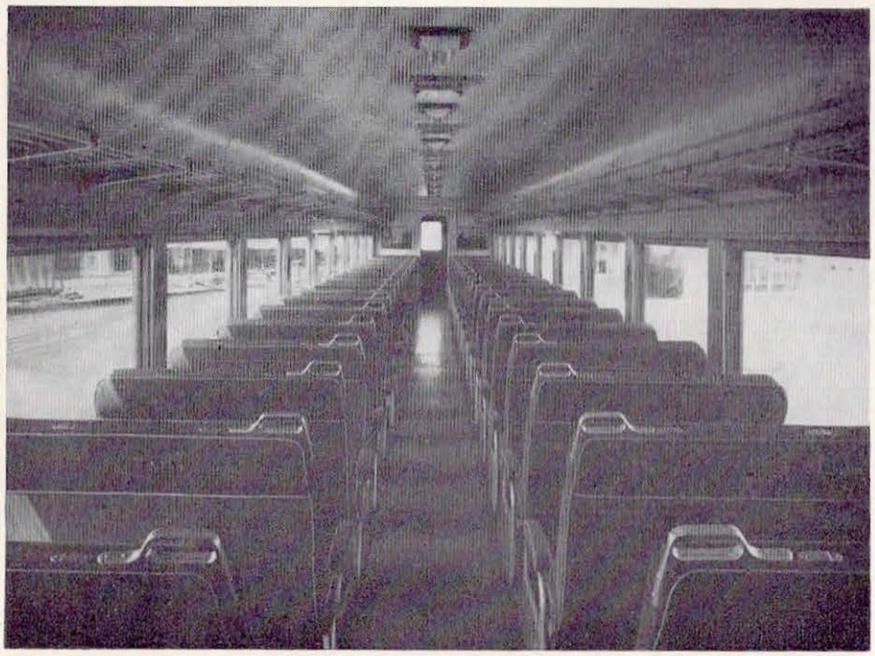
The main line of the Western Pacific through Feather River canyon was reopened for service on August 23, following extensive repairs to a tunnel 31 miles east of Oroville, Cal., that was severely damaged by fire on August 14. The fire started when part of the timber lining caught fire from a steam derrick being used to rerail 11 freight cars derailed because of a faulty side bearing. Due to a change in wind, the fire spread rapidly to the remainder of the tunnel lining and could not be controlled. It burned for several days before it could be brought under control and five of the derailed cars were destroyed.

As soon as the bore had cooled sufficiently for men to work in it, a Morrison-Knudson tunnel crew of 150 men began working 'round the clock, scaling loose rock and applying "Gunite" concrete lining with hydraulic nozzles. The crew, incidentally, had just come from working on some of the earthquake-damaged tunnels of the Southern Pacific at Tehachapi (*Railway Age*, August 18, page 14).

During the nine-day tie-up, WP freight and passenger trains were detoured over other railroads.



THIRTY NEW COACHES for first class travel—illustrated here for the first time in the United States—are being built for the National of Mexico by the Schindler Carriage & Wagon Co., of Pratteln, Switzerland, as part of the NdeM's extensive rehabilitation program, which is described in detail in the feature section of this issue (page 77). Many of the accessory parts for these cars were supplied by manufacturers in the United States and shipped to the builder in Switzerland. The first two of the 30 new coaches to be completed are now in transit to Mexico.



Laird Named Acting Secretary of I.C.C.

George W. Laird has been appointed acting secretary of the Interstate Commerce Commission, effective September 1. Mr. Laird, who has been the assistant secretary since 1936, assumes his new duties upon the retirement of Secretary W. P. Bartel.

The new acting secretary entered I.C.C. service in 1910. He was assistant chief, Section of Dockets, from 1920 to 1928, and assistant to the chief examiner from 1928 to 1935. He served briefly as assistant chief, section of complaints, Bureau of Motor Carriers, prior to his appointment as assistant secretary.

As noted in *Railway Age* July 14, page 14, and August 25, page 8, Secretary Bartel retired August 31 after more than 46 years with the commission. Mr. Bartel joined the I.C.C. in 1906, and became secretary in 1937.

Gurley Takes Post with Centennial of Engineering

Fred G. Gurley, president of the Atchison, Topeka & Santa Fe, has been elected to the board of directors of the Centennial of Engineering.

The board has 38 members, all leaders in industry, engineering and business. Among them are former President Herbert Hoover and Charles F. Kettering, research consultant for General Motors Corporation.

The Centennial of Engineering, currently being celebrated in Chicago, marks the 100th anniversary of the founding of the American Society of Civil Engineers. A summary of American Railway Engineering Association plans to participate in the event appeared in the August 4 *Railway Age*, page 14.

Freight Car Loadings

Loadings of revenue freight in the week ended August 23 totaled 834,120 cars, the Association of American Railroads announced on August 28. This was an increase of 28,416 cars, or 3.5

per cent, compared with the previous week; a decrease of 4,467 cars, or 0.5 per cent, compared with the corresponding week last year; and a decrease of 4,545 cars, or 0.5 per cent, compared with the equivalent 1950 week.

Loadings of revenue freight for the week ended August 16 totaled 805,704 cars; the summary for that week, compiled by the Car Service Division, A.A.R., follows:

REVENUE FREIGHT CAR LOADINGS

For the week ended Saturday, August 16

District	1952	1951	1950
Eastern	129,744	137,562	148,657
Allegheny	160,311	171,288	171,421
Pocahontas	59,533	64,390	64,329
Southern	125,237	124,862	131,445
Northwestern	148,470	143,331	143,029
Central Western	122,569	125,070	129,863
Southwestern	59,840	62,895	62,496
Total Western Districts	330,879	331,296	335,388
Total All Roads	805,704	829,398	851,240
Commodities:			
Grain and grain products	50,126	53,144	52,594
Livestock	7,325	9,285	7,945
Coal	144,468	147,426	157,428
Coke	12,872	16,368	15,056
Forest products	48,830	49,871	50,784
Ore	95,346	92,975	81,561
Merchandise l.c.l.	72,590	74,992	89,056
Miscellaneous	374,147	385,337	396,816
August 16	805,704	829,398	851,240
August 9	782,171	809,365	847,708
August 2	732,920	813,388	837,430
July 26	607,271	820,476	845,011
July 19	608,957	805,378	830,076
Cumulative total 33 weeks	23,092,923	25,363,785	23,439,531

In Canada. — Carloadings for the seven-day period ended August 14 totaled 83,001 cars, compared with 76,837 cars for the previous seven-day period, according to the Dominion Bureau of Statistics.

	Revenue Cars Loaded	Total Cars Rec'd from Connections
Totals for Canada: August 14, 1952	83,001	34,167
Cumulative Totals August 14, 1952	2,535,418	1,087,862

New Transcontinental Class Rate Scale Proposed

Western railroads, on August 22, filed docket advice in Interstate Commerce Commission Docket No. 30660 proposing a new reduced class-rate scale for transcontinental traffic.

The new scale would be based on a first-class rate of $7.02 per cwt. from Chicago to Pacific Coast terminal cities, the present rate being $9.36. Both the present and proposed rates are subject to a 15 per cent increase under Ex Parte 175. Rates for points east or west of Chicago would be based on recognized percentages of this Chicago rate. Rates to intermediate points in Mountain-Pacific territory were not detailed in the proposal, but they are to follow established relationships, a spokesman said.

Briefs Filed with I.C.C. In "Explosives" Case

The argument over whether motor carriers should have permanent authority to haul explosives over the highways boiled up again last week as all parties filed briefs with the Interstate Commerce Commission. This was the next step in the case which already has produced more than 8,500 pages of testimony and over 500 exhibits.

Railroads again urged the commission to deny all the motor applications. In this they were not alone. The American Automobile Association, claiming to represent 3,500,000 motorists, declared the motor carrier applications to be a "shocking assault" upon safety of the highways — "an indefensible proposal."

Brotherhoods split over the question, the Brotherhood of Locomotive Engineers on the one hand, the Teamsters union on the other. The B.L.E. "joined with the array of public witnesses, state officials, law enforcement officers, civic and business organizations . . . to protest . . ." The Brotherhood of Teamsters, Chauffers, Warehousemen and Helpers Union argued "the continued well-being . . . of our nation makes granting these applications imperative."

Riss Wants It All

Motor carriers themselves disagreed, not only with the railroads, but with each other. Riss & Co., one of the applicants, found "no reason . . . in this record to supplant, eliminate or curtail the Riss service." But Riss "respectfully requests" that the 23 other motor carriers which seek permanent authority to haul explosives be denied that authority.

A generally typical motor carrier position was that of Pacific Intermountain Express. P.I.E. and two other trucking firms seek authority in the same general area. Said P.I.E.: "The record contains no evidence whatsoever of a need for the proposed transportation of explosives by Watson and Ringsby in the states presently served by P.I.E."

The several states that have intervened in the case were less specific. They opposed all the motor carrier applications. Pennsylvania, with the "largest state highway system in the world," advised the I.C.C. that granting the certificates sought by the truckers would "present a threat to the safety and welfare of the citizens . . . and a threat to its highways."

The Department of Defense, the explosives shipper, filed a brief in general support of the motor carriers. The department said it needs both rail and motor service "to fulfill its mission in national defense."

"Rail service is in many instances inadequate for the needs of the military, particularly on rush shipments, because of the long transit times and the lack of rail facilities at many of the magazines and igloos," the department said.

"Shocking Indifference"

This need for speed was one thing the railroads capitalized on in their opposing brief. They declared the Defense Department "shows a shocking indifference for public safety," and they pointed this up so clearly that another motor carrier said, "for sheer horror the rail protestants outdo Hollywood."

Originally, 59 motor carriers were applicants for permanent authority to haul explosives. The Riss & Co. application was heard separately, while all the others were grouped into a con-

HIGH AND WIDE CLEARANCES, resulting from its original 6-ft. track gage, enabled the Erie to deliver this 401,000-lb. stator to Jersey City, N. J., for subsequent barge shipment to the Consolidated Edison Company's East River generating station in New York. Manufactured by the General Electric Company in Schenectady, N. Y., the stator, 12 ft. 7 in. wide and more than 17 ft. high, was moved from Schenectady to Jefferson Junction, Pa., via the Delaware & Hudson, and from there to Jersey City by the Erie, as the only load in a special train which moved by day only at reduced speed.

solidated proceeding. As the proceeding continued, and the record grew, the "consolidated" group dwindled. All but 23 applicants have withdrawn.

D.P.A. Announces "Goal" For Locomotive Expansion

A defense expansion "goal" for diesel-electric locomotives was announced last week by the Defense Production Administration. The program calls for construction of 15,500 new locomotive units between January 1, 1950, and July 1, 1954.

This goal provides the basis on which D.P.A. grants accelerated amortization certificates for new locomotives. As of August 15, the agency had granted fast write-off certificates for 7,610 diesel-electric units, indicating the 1954 "goal" is now almost 50 per cent complete.

The 15,500-unit program approved by D.P.A. does not include industrial locomotives for non-railroad use, loco-

(Continued on page 106)

ORGANIZATIONS

Dumaine, Miller to Speak At Treasury Convention

Frederick C. Dumaine, Jr., chairman of the board and president of the New York, New Haven & Hartford, and E. Spencer Miller, president of the Maine Central, will be among the featured speakers at the 41st annual meeting of the Treasury Division, Association of American Railroads.

The meeting will be held at the New Ocean House, Swampscott, Mass., from September 9 through September 11. Mr. Dumaine will deliver a welcoming address at the opening session of the convention.

Other speakers during the three-day meeting will include Dr. Alfred C. Neal, first vice-president, Federal Reserve Bank of Boston, who will speak on "Stabilizing the Economy at a High Level"; and Robert E. Thomas, manager, railroad investments, Keystone Custodian Funds, Inc., who will discuss "Profits from Railroad Revenue Dollars."

The final day of the meeting will feature addresses by Mr. Miller and by Sherwin Badger, financial vice-president, New England Mutual Life Insurance Company. F. H. Jeffrey, treasurer of the Chicago, Milwaukee, St. Paul & Pacific, and chairman of the division, also will deliver an address at the final session.

Other proceedings at the meeting will include reports of the division's various committees. The program for September 8 calls for an "open house" meeting of the Advisory Committee, and the convention will assemble formally at the morning session on September 9.

Plan Second Traffic Conference and Seminar

The American Society of Traffic and Transportation has announced preliminary plans for a second conference and seminar, to be held at Pittsburgh, in collaboration with the University of Pittsburgh, in September 1953. The first such conference and seminar was conducted on the Chicago campus of Northwestern University in September 1951 (*Railway Age*, September 24, 1951, page 53).

The society will conduct its next membership examinations in January 1953.

The **Association of Railroad Advertising Managers** will hold its convention "on wheels" and at three Canadian cities—Banff, Alta., Lake Louise, and Victoria, B.C.—on September 5-10. Fred Q. Treadway, president, and general advertising manager of the Southern Pacific, will preside over sessions aboard the Soo Line-Canadian Pacific's "Soo Dominion," as well as at hotels in the cities named. The CPR will be host to the group during the Canadian visit.

The **Chicago Transportation Club** will hear a talk by Dr. Herold C. Hunt, general superintendent of schools for the city of Chicago, on September 4. In his talk, "This Business of Education," Dr. Hunt will cover several educational matters that relate to the transportation industry. The meeting will be held in the LaSalle Hotel at 7 p.m.

United States Senator Ralph E. Flanders, of Vermont, past president and honorary member of the **American Society of Mechanical Engineers,** will deliver the Roy V. Wright Lecture, at the A.S.M.E. fall meeting, to be held in Chicago, September 8-11, at the Hotel Sheraton. The lecture, on "Engineering and Politics," will be given in honor of the late managing editor of *Railway Age*, who was president of the A.S.M.E. in 1931, and former state senator of New Jersey. Also included in the program for the meeting, which is celebrating the "Centennial of Engineering," is an address by Claude Seippel, director of research, Brown Boveri Company, Baden, Switzerland, on "Gas Turbines in Our Century."

The **Allegheny Regional Advisory Board** will hold its 67th regular meeting in the Westinghouse Electric Corporation auditorium, Sharon, Pa., on September 17 and 18. Robert E. Boyce, president, Harker Pottery Company, East Liverpool, Ohio, will be guest speaker at the luncheon session.

The **New England Shippers Advisory Board** will hold a "town meeting" on railroad transportation topics during its September 17-19 session at the Mount Washington Hotel, Bretton Woods, N.H. Curtis M. Hutchins, president of the Bangor & Aroostook, will be guest speaker at a banquet on the 18th, and Thomas A. Flaherty, chair-

NEW SERVICES OF INTEREST TO SHIPPERS

NEW YORK CENTRAL—Has made the following changes in its scheduled l.c.l. car lines:

Car lines discontinued:

Syracuse, N.Y., to Norwich Tfr., N. Y. (NYO&W); Gibson Tfr., Ind., to Bay City, Mich.; Boston, Mass., to Springfield; East Cambridge, Mass., to Springfield; Utica, N.Y., to St. Louis (MP); Cleveland to St. Louis (MP); Indianapolis to St. Louis (MP); Utica, N.Y., to Providence, R.I. (NYNH&H); Worcester, Mass., to Wayne Jct., Pa. (Rdg.); Springfield, Mass., to Pittsburgh, and to Proviso Tfr., Ill. (C&NW); Pittsburgh to Springfield, Mass.

New car lines:

Utica to Liberty, N.Y. (NYO&W); Albany-Troy, N.Y., to Cincinnati ("Pacemaker," tri-weekly); Boston to Worcester; East Cambridge, Mass., to Worcester; Utica to Memphis (MP); Indianapolis to Memphis (MP); Worcester to Rochester, N.Y. ("Pacemaker"), to New York (33rd St.) ("Pacemaker"), to Elizabethport Tfr., N.J. (CNJ), to Washington, D.C. (B&O), and to Camden, N.J. (PRR); Columbus, Ohio (Way Car) to Millersport to Bucyrus; Pittsburgh to Worcester.

PENNSYLVANIA—Has made the following changes in its scheduled l.c.l. car lines:

New car lines:

Pittsburgh (11th St.) to New Haven, Conn. (NYNH&H), to Hartford, Conn. (NYNH&H), to Ashland, Ky. (C&O), and to Manchester Tfr., N.Y. (LV); So. Philadelphia to Dover, Del., to Bridgeville, Del., to Cape Charles, Va., to Delmar, Del., to Easton, Md., and to Salisbury, Md.; Trenton, N.J., to Henderson, N.C. (SAL, via Potomac yard); Dubois, Pa., to Pittsburgh (11th St.); Pittsburgh (11th St.) to Camden, N.J.; Cleveland to Camden; Buffalo, N.Y., to Camden; Trenton to Camden; New York (Desbrosses St.) to Camden; Baltimore to Camden; Harrisburg to Camden; Williamsport, Pa., to Camden; and Reading, Pa., to Trenton.

CAR SURPLUSES, SHORTAGES

Average daily freight car surpluses and shortages for the week ended August 23 were announced by the Association of American Railroads on August 28 as follows:

	Surplus	Shortage
Plain Box	307	2,559
Auto Box	533	0
Total Box	840	2,559
Gondola	9	2,232
Hopper	0	2,679
Covered Hopper	3	97
Stock	1,211	22
Flat	8	180
Refrigerator	4,148	0
Other	561	3
Total	6,780	7,772

man, Massachusetts Department of Public Utilities, and F. H. Baird, assistant vice-president, passenger traffic, New York Central, will be speakers at the morning forum on the 19th.

SUPPLY TRADE

John Howard Dent has been appointed assistant traffic manager at New York for the **Universal Atlas Cement Company,** a subsidiary of the **United States Steel Corporation.** Mr. Dent succeeds **Leo Schuster,** deceased.

Leon C. Reed, assistant manager of sales in the railroad, pig iron and chemical division of **Inland Steel Company,** with headquarters in Chicago, has retired, and has been succeeded by **Albert W. McAbee,** formerly sales representative for the division.

Mr. Reed, who joined Inland in 1909, worked his way up through several positions in the sales department to become the first manager of the newly established Chicago district sales office in 1936. In 1944 he was appointed to the position which he held at the time of his retirement.

Prior to joining Inland in 1948, Mr. McAbee had been in the sales department of U.S. Steel in Pittsburgh and Chicago.

C. F. Weil, for many years Chicago sales representative of the **American Brake Shoe Company,** and secretary-treasurer of the Allied Railway Supply

C. F. Weil

Association, has retired, after 47 years' service in the engineering and sales departments. He will continue in railway sales work as a manufacturers' representative.

S. F. McDermott, formerly assistant to the traffic manager of the **American Car & Foundry Co.,** has been appointed traffic representative, in charge of all traffic, domestic and foreign.

R. W. Thompson, chief engineer of the **General American Transportation Corporation,** Chicago, has retired after more than 34 years of service with the company.

Malcolm McFarland, who has been appointed special industrial salesman in the Philadelphia regional office of E. I. du Pont de Nemours & Co. Mr. McFarland succeeds John H. Allen, who has been transferred to Detroit as automotive finishes representative.

Thomas S. Collins, formerly with the Industrial Tape Corporation, has been appointed electrode representative for the Chicago territory of the **McKay Company,** Pittsburgh. Mr. Collins will maintain headquarters at 1500 South Western avenue, Chicago, and his territory will cover northeastern Illinois and northwestern Indiana.

A. C. Cronkrite, vice-president, central region sales, of the **Universal Atlas Cement Company,** Chicago, a subsidiary of **U.S. Steel,** has retired, and **George S. Neel,** formerly western region sales manager, has been elected vice-president, central and western region sales.

Mr. Cronkrite began his 52-year career with U.S. Steel subsidiaries as an office boy with the American Steel &

The Caterpillar Tractor Company has appointed Delmar R. Lammers (left) as service manager, to assist in general service administration. Succeeding Mr. Lammers as eastern division service manager is Merle W. Dargel (center). Theodore M. Fahnestock (right) becomes service engineering manager to succeed Mr. Dargel.

Wire Co. in Chicago, transferring to Universal Atlas in 1907. He was appointed division sales manager for metropolitan Chicago in 1915, and 13 years later was advanced to assistant general sales manager. He was elected vice-president in 1937.

Since joining the company in 1919 as a salesman, Mr. Neel has held a number of sales management positions. He was promoted to sales manager, metropolitan Chicago territory in 1939, and 10 years later was appointed western region sales manager.

John M. Burton, formerly sales engineer with the Primary Battery division of **Thomas A. Edison, Inc.,** has been appointed district manager at San

John M. Burton

Francisco, to succeed **John R. Brown,** retired.

Mr. Burton began his business career with the Texas Company and soon after joined the Southern Pacific as signal helper. He advanced to assistant signalman in 1937, and in 1938 was given a

John R. Brown

leave of absence to work with the General Railway Signal Company as assistant signalman, construction, on the San Francisco-Oakland Bay bridge electrification project. He joined the San Francisco district of the Edison company in September of that year as service engineer and was appointed sales engineer in 1940. During World War II he was an officer with the Army Air Forces and in 1945 returned to Edison in his former capacity.

Mr. Brown began his career in 1909, in the engineering and valuation departments of the Union Pacific. In 1912 he joined the signal department of the Oregon Short Line and in 1918 joined General Railway Signal, on signal construction and special field work. Mr. Brown joined the Primary Battery division of Edison in 1920 as sales engineer, and was promoted to Pacific Coast sales manager in June 1947.

OBITUARY

Samuel F. Nichols, who retired in 1949 as president of the Nichols Engineering Company, Chicago, died on August 17.

EQUIPMENT AND SUPPLIES

Domestic Equipment Orders Reported in August

Domestic equipment orders for eight diesel-electric locomotive units, 10 electric locomotives, 2,133 freight cars and 145 passenger cars were reported by individual purchaser in *Railway Age* in August. Estimated cost of the locomotives is $2,755,000; of the freight cars, $13,136,000; and of the passenger cars, $26,400,000. An accompanying table lists the orders in detail.

During the first eight months of 1952, *Railway Age* has reported domestic orders by individual purchaser for 950 diesel-electric locomotive units and 15 steam and 10 electric locomotives costing an estimated $151,807,000; 24,512 freight cars costing an estimated $153,051,000; and 292 passenger cars costing an estimated $37,718,016.

FREIGHT CARS

The **Baltimore & Ohio** has ordered from its own shops at Washington, Ind., 12 cabooses. Cost and date of delivery have not yet been determined.

The **Bangor & Aroostook** has ordered 107 40-ton refrigerator cars from the Pacific Car & Foundry Co. These cars are in addition to 250 similar units previously ordered (*Railway Age,* July 14, page 84). The earlier order also included 250 insulated box cars with underslung heaters, and this portion of the order has been reduced by 100 cars. Delivery of the 107 new units is expected in March or April 1953.

The **Central of Georgia** has ordered 25 70-ton covered hopper cars from the Pullman-Standard Car Manufacturing Company at an estimated cost of $178,750. Delivery is scheduled for the first quarter of 1953.

The **Colorado & Southern** has been authorized to acquire 70 50-ft. and 30 65-ft. mill-type gondola cars and 20 70-ton covered hopper cars.

The **Fort Worth & Denver** has been authorized to acquire 250 40-ft. steel box cars.

The **Southern Pacific** has announced authorization to construct 2,004 freight cars as an initial step in its 1953 freight-car acquisition program. The cars may be built in the SP's own shops at Sacramento, Cal., and Algiers, La. Included are 1,000 53½-ft. 70-ton flat cars; 450 hopper-bottom gondola cars; 350 tight-bottom gondola cars; four heavy-duty special flat cars of 200- and 125-ton capacity; 100 special type 50-ton pulpwood flat cars with end racks; and 100 special type 70-ton gondola cars for transporting sulphur. The latter 200 cars will be assigned to the company's lines in Texas and Louisiana.

Domestic Equipment Orders Reported in August

LOCOMOTIVES

Purchaser	No.	Type	Issue Reported	Builder
NYNH&H	10	Passenger Electric	Aug. 25	Not Reported
NP	3	1,600-hp. Rd.-Sw.	Aug. 11	American-G.E.
	3	1,000-hp. Switching	Aug. 11	American-G.E.
	1	1,500-hp. Rd.-Sw.	Aug. 11	Electro-Motive
	1	1,200-hp. Switching	Aug. 11	Electro-Motive

FREIGHT CARS

DT&I	300	50-ton Box	Aug. 18	Pullman-Standard
GTW	100	70-ton Gondola	Aug. 11	General American
GN	1,000*	50-ton Box	Aug. 4	R.R. Shops
IC	8	30-yd. Air Dump	Aug. 25	Baldwin-Lima-Hamilton
M-K-T	500	50-ton Box	Aug. 25	Amer. Car & Fdy.
NC&StL	75	Covered Hopper	Aug. 11	Pullman-Standard
NYNH&H	100	Insulated	Aug. 25	Not Reported
WFE	50	Refrigerator	Aug. 4	Co. Shops

*50 will be equipped for passenger-train service.

PASSENGER CARS

B&M	2	RDC-1	Aug. 25	Budd
	1	RDC-3	Aug. 25	Budd
IC	6	Sleeping	Aug. 25	Pullman-Standard
NYNH&H	26	RDC	Aug. 11	Budd
	100	Multiple-Unit	Aug. 25	Not Reported
	10	Self-propelled rail bus	Aug. 25	Mack Trucks, Inc.

LOCOMOTIVES

The **Colorado & Southern** has ordered ten 1,500-hp. diesel-electric switching locomotive units equipped with six-wheel trucks from the Electro-Motive Division of General Motors Corporation.

The **Fort Worth & Denver** has ordered two 2,250-hp. diesel-electric passenger locomotive units and eight 1,500-hp. switching units from the Electro-Motive Division of General Motors Corporation.

SIGNALING

The **Southern** has ordered from the General Railway Signal Company equipment for installation of a relay interlocking at Elysian Fields, La., and a remote control interlocking at Ooltewah, Tenn.

CAR SERVICE

I.C.C. Service Order No. 867, which governs the handling of trap or ferry cars containing l.c.l. freight within a switching district, has been modified by Amendment No. 7, which set back the expiration date from August 31 until November 30.

I.C.C. Service Orders Nos. 870 and 871, which restrict the free time allowed on freight cars at ports, have been modified by amendments (Nos. 6 and 7, respectively), which set back the expiration dates from August 31 until November 30.

I.C.C. Service Order No. 877, which authorizes rerouting of Chicago, Milwaukee, St. Paul & Pacific traffic because of bridge damage at Winona, Minn., has been modified by Amendment No. 5. This sets back the expiration date from August 31 until November 30.

FINANCIAL

Boston & Maine.—*Securities Modification.*—The plan for modification of this road's capital stock structure (*Railway Age*, February 5, 1951, page 76), apparently moved nearer consummation as an objecting group of minority stockholders, and representatives of assenting stockholders and management, announced settlement of their differences at a Boston, Mass., hearing before I.C.C. Examiner Homer H. Kirby on August 25 (*Railway Age*, May 12, page 80).

Chicago, Rock Island & Pacific. — *Acquisition.* — This road has asked the I.C.C. for authority to acquire all properties of the Burlington, Muscatine & Northwestern, and to dissolve the separate company. The BM&N, which has been operated by the Rock Island under a lease agreement, is located at Muscatine, Iowa.

Southern. — *Competitive Bidding Relief.*—The I.C.C. has turned down the Southern's application for relief from competitive bidding on a proposed $46,000,000 bond issue. The adverse decision came within a week after the commission denied similar relief to the Illinois Central (*Railway Age*, August 25, page 18).

As in the IC case, the Southern's application was opposed by the financial firm of Halsey, Stuart & Co., the Federation for Railway Progress and the Justice Department. Division 4 went along with a Halsey, Stuart contention that it was impossible to anticipate bond market conditions for July 1953, "much less . . . what they will be in April and November 1956."

The relief sought by the Southern and two of its affiliates, the New Orleans Terminal Company and New Orleans & Northwestern, would have permitted private sale of new bonds to help meet maturities in 1953 and 1956. These maturities aggregate $89,643,000, of which $11,423,000 will occur July 1, 1953. By paying a "reasonable stand-by charge," the Southern hoped to avoid actual issuance of most of the new bonds until needed in 1956. The road took the position that it would be better to do the contemplated 1956 financing at this time, rather than to delay until a time closer to the maturities "with the uncertainties as to market conditions then existing which will attend such a delay" (*Railway Age*, July 14, page 87, and August 11, page 15).

The F.R.P. told the I.C.C. the Southern application "falls far short of disclosing adequate grounds for exemption (from competitive bidding)," and the Justice Department said no "special circumstances" were present to warrant approval of the application.

New Securities

Application has been filed with the I.C.C. by:

GULF, MOBILE & OHIO.—To assume liability for $4,992,000 of series F equipment trust certificates, to finance in part three diesel-electric locomotives and 1,237 freight cars costing an estimated $7,403,050.

	Description and Builder	Estimated Unit Cost
3	1,600-hp. road-switchers (American Locomotive-General Electric Companies)	$158,467
700	50-ton box cars (American Car & Foundry Co.)	5,747
300	50-ton gondola cars (Pullman-Standard Car Manufacturing Company)	5,155
200	Wood rack cars (company shops)	5,757
37	Wood rack cars (company shops)	5,598

The certificates, dated October 1, would mature in 26 semiannual installments of $192,000 each, beginning April 1, 1953. They would be sold by competitive bidding, with the interest rate to be set by such bids.

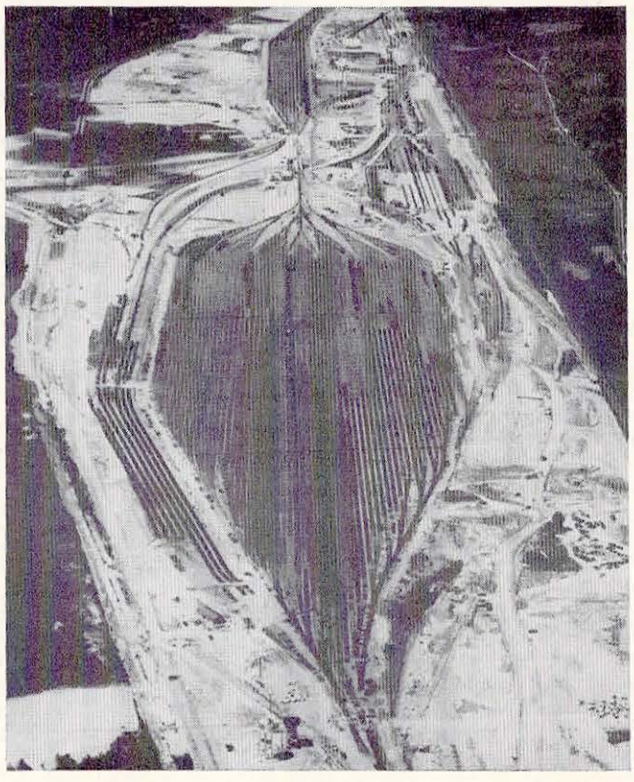
Security Price Averages

	Aug. 26	Prev. Week	Last Year
Average price of 20 representative railway stocks	63.54	63.38	52.50
Average price of 20 representative railway bonds	92.73	93.37	91.93

Dividends Declared

BOSTON & ALBANY.—$2, payable September 30 to holders of record August 30.

CHESAPEAKE & OHIO.—common, 75¢, quarterly, payable September 20 to holders of record September 2; 3½% convertible preferred, 87½¢,



JUST ABOUT COMPLETED, at Birmingham, Ala., is the Southern's new multi-million dollar Ernest Norris yard. The receiving yard is at the top of the picture, with a new diesel shop at the right. To the right of the hump, between the receiving and classification yards, is a car shop, while forwarding yards will be to the right and left of the big classification yard. Distance shown from top to bottom of this aerial view is 2.1 miles.

quarterly, payable November 1 to holders of record October 1.

ILLINOIS CENTRAL.—increased quarterly, $1, payable October 1 to holders of record September 3.

KANSAS CITY SOUTHERN. — common, $1.25, quarterly, payable September 15 to holders of record August 29; 4% non-cumulative preferred, $1, quarterly, payable October 15 to holders of record September 30.

PITTSBURGH, FORT WAYNE & CHICAGO — common, $1.75, quarterly; 7% preferred, $1.75, quarterly, payable October 1 and October 7, respectively, to holders of record September 10.

SOUTHERN PACIFIC.—75¢, quarterly, payable September 22 to holders of record September 5. (Equivalent to last quarterly dividend of $1.50 because of two-for-one split approved by stockholders August 5. See *Railway Age*, August 11, page 16.)

RAILWAY OFFICERS

EXECUTIVE

As reported in *Railway Age* August 25, page 55, **Howard E. Simpson** has been elected executive vice-president of the BALTIMORE & OHIO; **J. W. Phipps, Jr.,** succeeds Mr. Simpson as vice-president—traffic, both with headquarters at Baltimore. Mr. Simpson was born at Jersey City, N. J., on March 15, 1896, and began his railroad career in 1912 as a clerk with the Central of New Jersey. After service in the United States Navy during World War I, he returned to the CNJ in May 1919, subsequently becoming rate clerk, advertising agent, district passenger agent at Newark, general eastern passenger agent at New York and assistant general passenger agent. Mr. Simpson entered the service of the B&O in 1931 as general eastern passenger agent at New York and five years later moved up to the post of assistant to the general passenger traffic manager at Baltimore. He became assistant general passenger traffic manager for the system in 1941, general passenger traffic manager in January 1944, assistant vice-president for both freight and passenger traffic in February 1946, and vice-president in charge of traffic on February 1, 1947. A photograph of Mr. Simpson appears on page 10.

FINANCIAL, LEGAL & ACCOUNTING

James M. Souby, general solicitor of the ASSOCIATION OF AMERICAN RAILROADS since 1942, retired on September 1 after nearly 40 years of railroad service.

Mr. Souby joined the A.A.R. in 1937 as assistant general counsel, and was made general solicitor in 1942. He entered railroad service in 1913 as commerce counsel of the Kansas City Southern, and subsequently served as solicitor of that road. In 1919, Mr. Souby was named assistant valuation and commerce counsel of the Union Pacific, and in 1928 became valuation and commerce counsel, a position he held until 1936. In that year he was appointed western general counsel of the UP, and remained in that position until he went to the A.A.R. in the following year. Mr. Souby was born in Karnes City, Tex., and entered law practice in Kansas City, Mo., in 1912 after receiving a law degree from Vanderbilt University. He has been a member of the Board of Trust of that university for more than 20 years.

OPERATING

George W. Bohannon, manager of purchases and stores for the PULLMAN COMPANY, has been appointed general manager, with headquarters remaining at Chicago. Prior to joining Pullman

George W. Bohannon

in October 1951, Mr. Bohannon was chief mechanical officer for the Chicago & North Western system. He first entered railroad service in 1926 as a draftsman for the Duluth, Missabe & Northern (now Duluth, Missabe & Iron Range) following education at Cornell University and the University of Minnesota, from which he holds a degree of B.S. in M.E.. He rose to the position of mechanical engineer before joining the North Western in 1944 as assistant to the chief mechanical officer in charge of engineering. The following year he was appointed assistant chief mechanical officer and in 1948 became chief mechanical officer for the system. He joined Pullman as manager of purchases and stores—a newly created position—in 1951.

H. J. Zinter has been appointed assistant general manager of the CHICAGO, AURORA & ELGIN, at Wheaton, Ill. Prior to this appointment, Mr. Zinter, who has been with the road since 1926, had held successive positions as assistant engineer, assistant maintenance of way engineer, purchases and stores officer, and special engineer.

Carle H. Belt, general superintendent of freight service of the PACIFIC ELECTRIC, at Los Angeles, retired on September 1, following service spanning all but the first year of operation of the 50-year-old company. He entered service as a conductor-motorman on the Southern division on June 13, 1903, and after service in various capacities, was appointed general superintendent of freight service on November 1, 1948. During World War II he commanded Camp Cooke, Cal., with the rank of colonel.

TRAFFIC

The ST. LOUIS-SAN FRANCISCO has appointed five general agents to head new agencies, as follows: **F. C. Reid,** Savannah, Ga.; **E. E. Reynolds,** Amarillo, Tex.; **W. E. Stacey, Jr.,** Louisville, Ky.; **H. E. Perry,** Shreveport, La.; and **E. W. Ritter,** Nashville, Tenn.

J. F. Kolar has been appointed perishable traffic agent of the WABASH, at Chicago.

The ILLINOIS CENTRAL has changed the name of its agricultural department to agricultural and forestry department. and the title of **Paul R. Farlow** from general agricultural agent to general agricultural and forestry agent.

L. E. Tenney has been appointed assistant general freight agent of the DELAWARE, LACKAWANNA & WESTERN at Chicago. **Norbert M. Schmitz** has been appointed general agent at Albany, N.Y., succeeding **W. P. Campion,** whose transfer to Pittsburgh was announced in *Railway Age* August 25, page 56.

Walter G. Shisler, general agent of the CHICAGO, BURLINGTON & QUINCY at Milwaukee, has been transferred to Washington, D.C., succeeding **M. G. Coffey,** who is being relieved of his duties because of ill health. **George A. Meier,** commercial agent at Detroit, succeeds Mr. Shisler as general agent at Milwaukee.

G. R. Swisher has been appointed division freight agent of the NORFOLK & WESTERN at Portsmouth, Ohio. The position of commercial agent at Columbus, Ohio, formerly held by Mr. Swisher, has been abolished.

E. Q. Davis, district freight agent of the SEABOARD AIR LINE at Charlotte, N.C., has been appointed assistant general freight agent at Columbia, S.C., succeeding **O. G. Donny,** who retired at his own request on August 31, after 46 years of service. **R. S. Lockhart, Jr.,** commercial agent at Columbia, succeeds Mr. Davis as district freight agent at Charlotte.

Neil R. McCormick, assistant general freight agent of the NEW YORK CENTRAL, has been appointed to the new position of general freight and passenger agent, with headquarters as before at Washington, D.C. His new duties will include supervision of both the freight and passenger traffic de-

(Continued on page 106)

C&O's $10,000,000 DOUBLE FEATURE

Helps Cut Distribution Time!

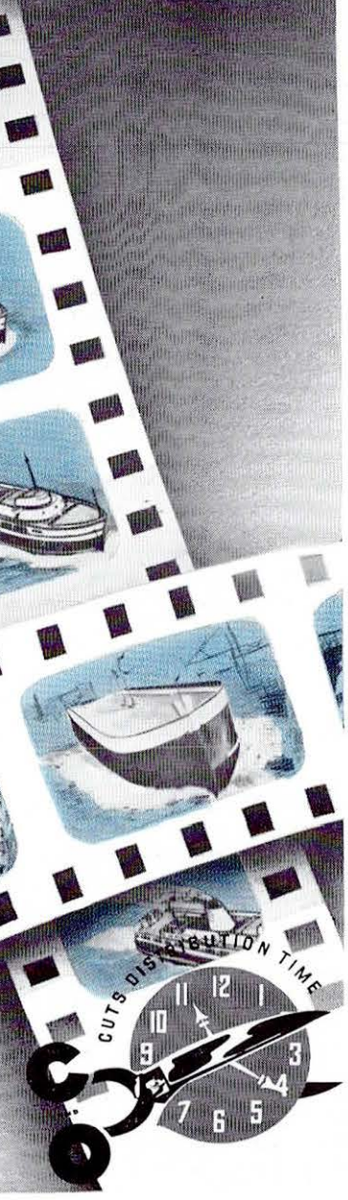
one *On the Go...*

another *On the Way*

C & O's new carferry, the S.S. Spartan, launched last January, was christened last week for service on the time-saving Lake Michigan route, helping shippers cut distribution time. The S.S. Badger, sister ship to the Spartan, was launched at the same time.

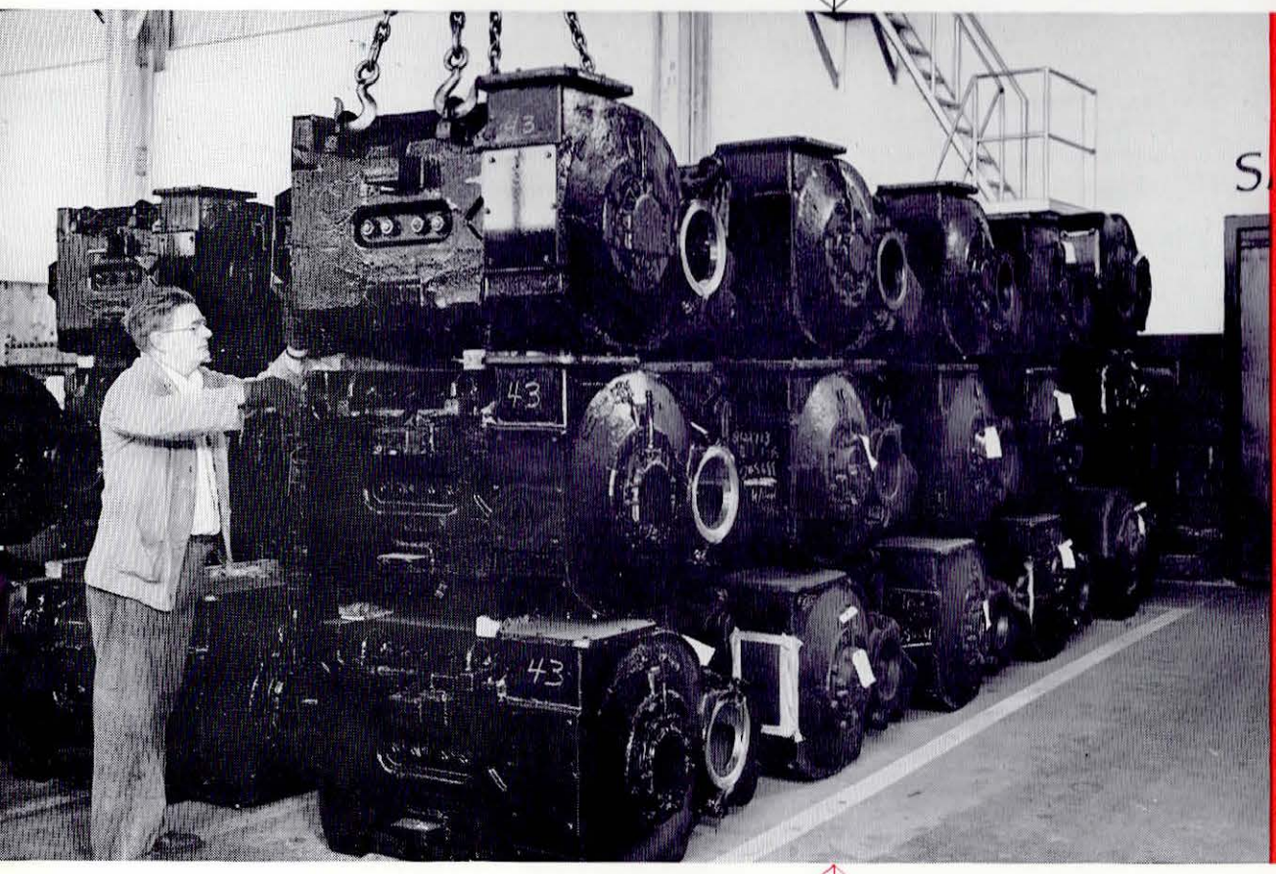
This means that C & O, in an all-out effort to help shippers cut distribution time, has spent $10,000,000 on two of the fastest, finest, most modern carferries in the world. It also means that shippers can take advantage of a convenient, year-round short cut between the East and the Northwest-Pacific Coast area.

Why not let your shipments go via C & O and cut the distribution time?



Chesapeake and Ohio Railway

How to get factory-rebuilt motors



Factory-rebuilt traction motors and other major components are stocked at La Grange and seven other strategically located points.

IF YOU have anything to do with the maintenance of General Motors Diesel locomotives—whether one unit or hundreds—you'll certainly find this explanation of Electro-Motive "Unit Exchange" of interest.

"Unit Exchange" is Electro-Motive's name for a unique system of components replacement. If a traction motor, generator, engine or other major Diesel locomotive component needs overhaul, you simply order a "Unit Exchange" assembly and receive immediate shipment of a *completely rebuilt, fully guaranteed* unit—shipped F.O.B. our nearest Factory Branch. In most cases, it can be delivered in your shop within 24 hours!

You don't need to hold a locomotive out of service waiting for the assembly to be rebuilt. We carry the spares for you—supply them immediately in emergencies or on predetermined schedules to meet your requirements—*and make no extra charge for the service!* You can get along with smaller inventories, and keep your locomotives at work more hours per year.

You return your old assembly for rebuilding and when it is brought up to our good-as-new standard, it goes into our pool ready for the next shipment. *The price you pay is determined solely by the material and labor needed to bring your old assembly to the same top-standard condition as the one you receive.* The charge is exactly the same as if you send us a unit for Rebuild-and-Return.

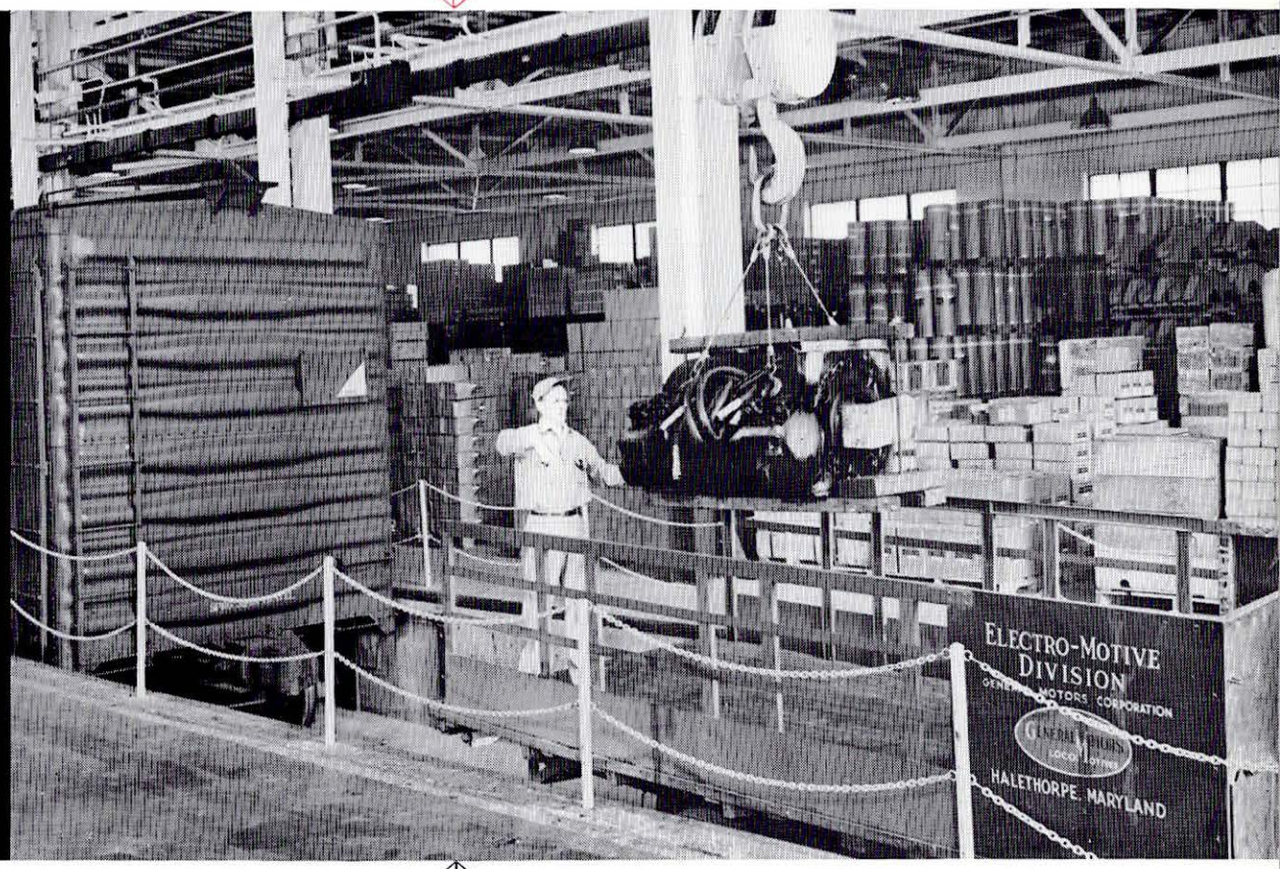
Because of volume operation and modern laborsaving techniques, Electro-Motive's published flat-rate charges are the lowest you'll find for high-quality work. Only *genuine* Electro-Motive parts are used and *every* assembly rebuilt by Electro-Motive carries the same guarantee as new—*100,000 miles or one year of service.*

That's what we mean by "Unit Exchange." Let us show you how much it can save your railroad. Write us for full particulars, or consult your local EMD representative.

overnight — *and pay no premium!*

that's what we call "UNIT EXCHANGE"

Over 85% of all General Motors locomotives are "on line" to Electro-Motive Factory Branches. "Unit Exchange" deliveries can often be made in your shop within 24 hours.



10 PLUS FEATURES IN ELECTRO-MOTIVE'S LIFELONG SERVICE PROGRAM

1. **UNMATCHED EXPERIENCE** gained in designing, engineering and building more than 11,000 Diesel locomotive units.
2. **SUPERIOR MANUFACTURING FACILITIES** for mass-production of highest-quality locomotives at lowest cost.
3. **PROMPT PARTS SUPPLY** through strategically located factory branches and parts depots at eight key railroad centers.
4. **SKILLED TROUBLE-SHOOTING** and maintenance advisory service by a nationwide staff of 150 service engineers and parts specialists.
5. **FACTORY REBUILDING** of major assemblies with same techniques and tooling used in new manufacture.
6. **UNIT EXCHANGE SERVICE**—Prompt delivery of fully rebuilt assemblies in exchange for units needing rebuilding.
7. **PROPER SCHOOLING** of operating and maintenance personnel from the first day General Motors equipment goes on the line.
8. **SPECIAL ENGINEERING** of new and improved parts to make them fit General Motors units of any age.
9. **ONE-YEAR 100,000-MILE GUARANTEE** on Electro-Motive parts and rebuild effective upon installation, *not* the date of shipment.
10. **FACILITIES PLANNING SERVICE**—Expert assistance in helping railroads plan Diesel servicing and parts warehousing facilities.

ELECTRO-MOTIVE DIVISION
GENERAL MOTORS

La Grange, Illinois · Home of the Diesel Locomotive

In Canada: GENERAL MOTORS DIESEL, LTD., London, Ontario

GENERAL MOTORS LOCOMOTIVES

Cut delays

HOLD CLOSER SCHEDULES WITH WESTINGHOUSE FE RADIO

Unforeseen delays needn't disrupt operations if communications are clear, quick, dependable. Westinghouse railroad radio has solved many problems instantly, allowing dispatchers to save hundreds of operating hours.

In one instance*, a Westinghouse FE Railroad Radio saved hours of delay when a truck was abandoned on a spur track. In another instance, six hours were saved when a freight was cleared from a blind siding by using railroad radio. And in yard operations, minutes pyramid into hours of savings.

The Westinghouse FE railroad radio offers the utmost availability and dependability. It has exceptional clarity, meets or exceeds AAR and FCC standards. A full accessory line gives it flexibility to meet your needs. Write for further information: Westinghouse Electric Corporation, Railroad Communications Section, Dept. A-49, 2519 Wilkens Avenue, Baltimore 3, Maryland. Or call your Westinghouse representative today.

*Names and full details on request.

YOU CAN BE SURE... IF IT'S

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From Planting to Marketing . . .

Coast Line Serves Tobacco Land

SERVING America's fertile tobacco producing territory, *Coast Line* plays an important role tobacco-wise—from planting to marketing. All along the line modern expeditious transportation keeps the golden leaf moving through warehousing, processing and finally in the form of the finished products delivered to tobacco counters everywhere.

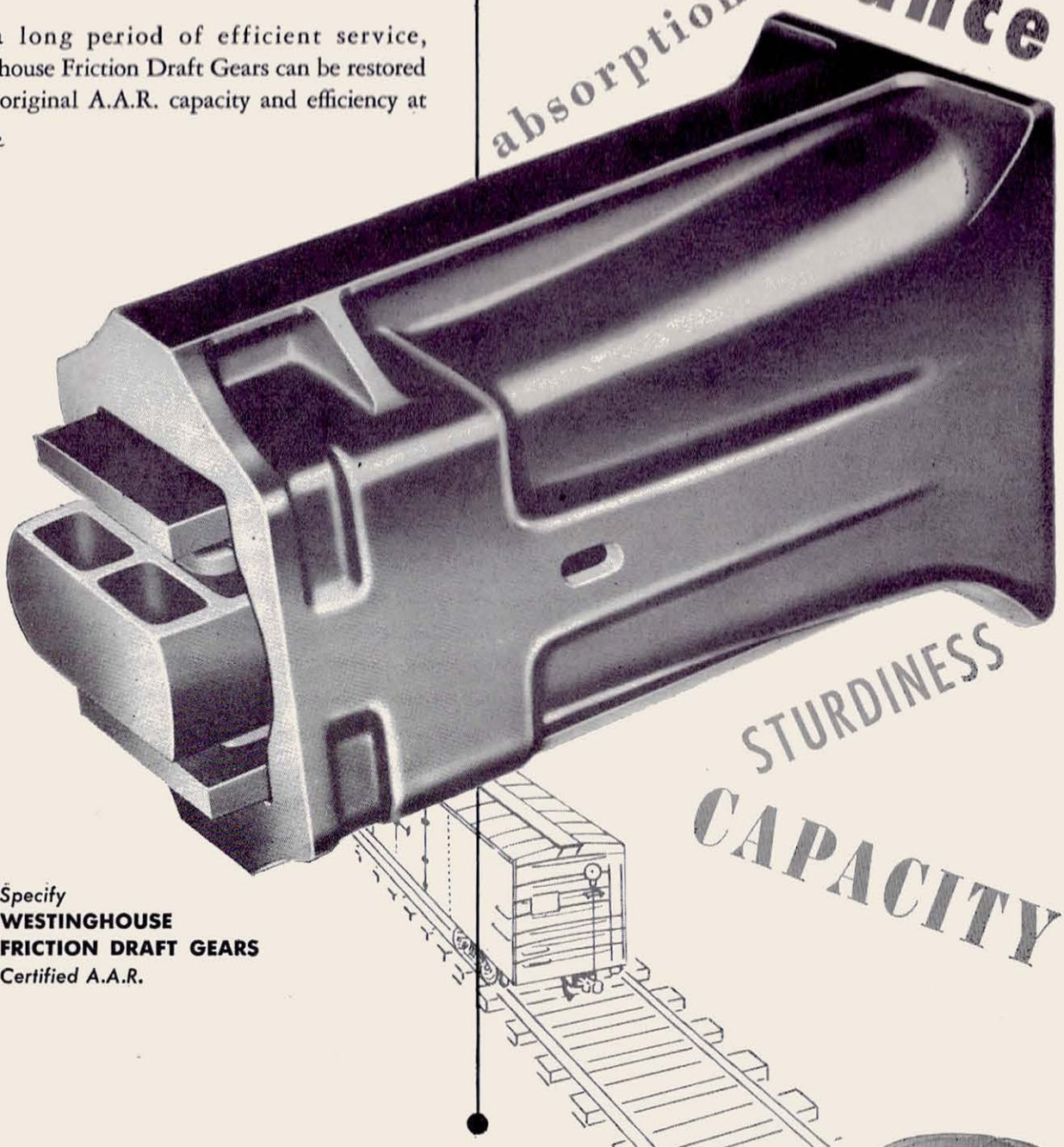
ATLANTIC
COAST LINE
RAILROAD

EFFICIENCY RESTORED

After a long period of efficient service, Westinghouse Friction Draft Gears can be restored to their original A.A.R. capacity and efficiency at low cost.

endurance

absorption



STURDINESS

CAPACITY

Specify
WESTINGHOUSE
FRICTION DRAFT GEARS
Certified A.A.R.

More than 98% of cars in freight-carrying service are A.A.R. construction and over 96% have Friction Draft Gears.

CARDWELL
FRICTION BOLSTER SPRINGS
for A.A.R. and Long Travel Springs

5899R

Cardwell Westinghouse Co., Chicago
Canadian Cardwell Co., Ltd., Montreal

IF YOU COULD BUILD A CAR WITH 1000 ROOMS

You'd still need only...

3 THERMOSTATS

NO OTHER TYPE OF ROOM-CAR HEATING EVEN COMES CLOSE TO Moduzone
...simplest system ever devised for selective, individual control.
How Simplified VAPOR MODUZONE Works
These are the simple, dependable elements of the efficient Moduzone System

That's Right! With the new MODUZONE System, just three thermostats and two steam-supply regulators accurately maintain selected room temperatures—*no matter how many rooms*—and each room in the car is automatically compensated for the effects of wind and sun.

FOR NEW CARS AND OLD. MODUZONE is the simplest system ever developed to provide comfortable, individual temperatures. It has no room thermostats, potentiometer switches, relays, or magnetic valves—no motors, motor alternators, specially shielded wiring, or anti-freeze to leak. On new cars or old, MODUZONE pays its way through welcome maintenance savings.

NEW LOW MAINTENANCE. With no operating valves or moving mechanical parts inside car—and with all control elements completely replaceable in less than ten minutes—systemized maintenance (as with air brake triple valves) builds rider good will through uninterrupted, trouble-free service. Ask for full facts about low-cost MODUZONE heating . . . Bulletin 568.

VAPOR

Moduzone

First Real Maintenance-Saving Selective Heat for Room Cars

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MONTREAL • LOS ANGELES

1952

Another Great Year for Soybean,

"The Miracle Crop"

1952 looks like another great year—perhaps the greatest in history—for SOYBEAN, "the Miracle Crop." Particularly is this true in the Great Midwest, where more than half of the nation's Soybeans are grown in the four rich states served by

The Minneapolis & St. Louis Railway

Each year, the Soybean, almost unheard of in America a generation ago, looms larger in the picture of agricultural progress and prosperity. In 1929, the United States harvested only 9,438,000 bushels of Soybeans from 708,000 acres. In the ten years of 1929-38, the crop averaged 28,314,000 bushels.

Now Near the 300 Million Mark

In 1951, with new uses discovered year after year for "the Miracle Plant," the Soybean crop totaled 280,512,000 bushels, harvested from 13,211,000 acres. In addition, the country planted 2,168,000 acres of Soybeans for hay and green fertilizer. The 1951 crop of Soybeans, huge as it was, ranked second to the record harvest on 299,279,000 bushels in 1950.

Through the years, the Soybean has contributed and will contribute, more and more, to the agricultural and industrial progress and thus to the wealth of America.

The MINNEAPOLIS & ST. LOUIS *Railway*

Fast Freight Service in the Great Midwest . . .

In 1951, the four Midwest States which are served by the Minneapolis & St. Louis Railway harvested 146,788,000 bushels of Soybeans. Illinois produced 94,562,000 bushels; Iowa, 32,508,000; Minnesota, 18,848,000; South Dakota, 870,000. The total was more than 52 per cent of the nation's crop of 280,512,000.

For more than 20 years, the M. & St. L. has been a leader in promoting the growing of Soybeans on the fertile farms of its territory.

Best in a tight scrape

Ditching, banking, or leveling right-of-ways. Slogging through muck or slugging it out with rock. The "Caterpillar" No. 40 Scraper teamed with a "Cat" Diesel D4 Tractor is an off-track work horse for the Nashville, Chattanooga & St. Louis Railway.

"They are 75% better than the costly hand shovel method and save me 20% over other equipment," reports R. O. Corbitt, supervisor of construction.

These scrappy units are working a 40-mile stretch on the Chattanooga Division. Averaging 3 round trips an hour, each "Caterpillar" team hauls 4½ yards a half-mile. Part of their work is in earth with 50% rock, the rest in muck.

Mr. Corbitt singles out 2 of the No. 40 Scraper's many features for particular praise: its maneuverability at close quarters and the rear wheel adjust-to-raise pan to go over tracks at crossings.

Working in tight spots is easy for the No. 40 Scraper because of its short turning radius. In addition its high apron lift and forced ejection assure faster, cleaner spreading. This results in shorter cycle time.

You can learn about this hard-working pair — the Diesel D4 Tractor and No. 40 Scraper — from your "Caterpillar" Dealer. He can tell you how "Caterpillar" equipment will pay off in higher production and economy on *your* job.

CATERPILLAR TRACTOR CO. • PEORIA, ILLINOIS

CATERPILLAR

REG. U. S. PAT. OFF.

DIESEL ENGINES
TRACTORS • MOTOR GRADERS
EARTHMOVING EQUIPMENT

Would you invest $200,000 to save $1,200,000?

By reducing corrosion damage in hopper cars

WHEN you can expect a three-fold to six-fold return on your money—and can be *sure* of getting it—it doesn't take much sporting blood to close the deal. It just takes a little vision.

That's why we would like to emphasize the tremendous savings in maintenance costs that hopper car construction with corrosion-resisting U·S·S COR-TEN steel has to offer.

These predicted savings, of three to six repair dollars for every extra dollar spent for COR-TEN steel, can be confidently counted upon. They are not imaginary figures. They are conservatively estimated from established facts—from results of actual performance tests made in hopper cars in which COR-TEN steel and copper steel have been tested side by side in identical coal hauling service for a period of 13½ years.

In these cars, with body sheets built half of COR-TEN steel and half of copper steel, careful measurement showed that on the average the COR-TEN steel sheets had lost *only half* as much weight and thickness as the copper steel sheets. In a similar "identical service" test which ran for 13 years, the comparative losses in weight and thickness were in substantial agreement with these findings.

Not only these results, but others like them obtained from the examination of hopper cars in service on various railroads, clearly indicate that by substantially reducing corrosion damage, U·S·S COR-TEN steel, used in place of copper steel, in the same thicknesses, will increase the life of hopper car body sheets by at least 50%.

Here's how the longer life of COR-TEN steel pays dividends

Take a 70-ton hopper car for example. Built of copper steel it costs $5400. Built of U·S·S COR-TEN steel of the same thickness throughout it would cost $5600—$200 more.

At the end of 12 years, the copper steel car on many roads would require heavy repairs at a cost of about $1600. At the end of 24 years, heavy repairs would cost an additional $1600—bringing the total cost of maintenance for the life of the car to $3200.

Figuring the life of U·S·S COR-TEN steel construction conservatively as only 50% longer, the COR-TEN steel car would require heavy repairs at the end of 18 years—at a cost of $1800—and no more would be needed.

Thus, over the 36-year normal life of each car, the cost of repair for the COR-TEN steel car would be $1400 less. Subtract from this the $200 extra cost for the original COR-TEN steel construction, and the *net* saving is $1200—a 600% return on the investment.

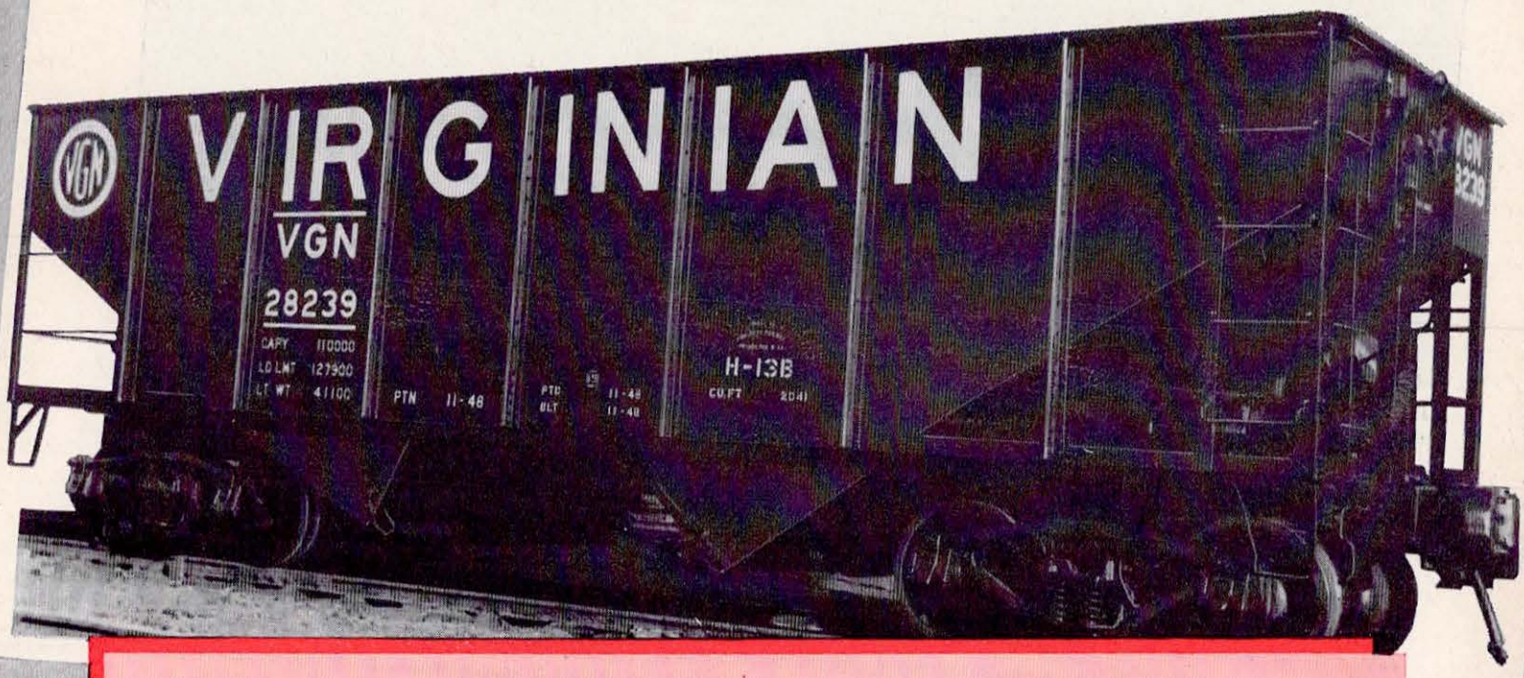
Projected in terms of a 1000-car order, COR-TEN steel construction at an extra cost of only $200,000, would thus save $1,200,000 in maintenance costs. These figures speak for themselves. They are worth your serious consideration. We suggest that you insert the life of hopper car sheets and the cost of repairs on your own road in the table on the opposite page to see how much you can save by using U·S·S COR-TEN steel.

USS TRADE MARKS COR-TEN STEEL UNITED STATES STEEL

UNITED STATES STEEL COMPANY, PITTSBURGH • AMERICAN STEEL & WIRE DIVISION, CLEVELAND
COLUMBIA-GENEVA STEEL DIVISION, SAN FRANCISCO • NATIONAL TUBE DIVISION, PITTSBURGH
TENNESSEE COAL & IRON DIVISION, FAIRFIELD, ALA.
UNITED STATES STEEL SUPPLY DIVISION, WAREHOUSE DISTRIBUTORS
UNITED STATES STEEL EXPORT COMPANY, NEW YORK

COR-TEN steel construction can pay off 6 to

Virginian Railway will save $2,200,000 on the 2,500 50-ton hopper cars already built with bodies of U·S·S COR-TEN steel



TYPICAL COST COMPARISON FOR 1000 70-TON HOPPER CARS USING COR-TEN STEEL AND COPPER STEEL IN AAR STANDARD THICKNESSES

CONSTRUCTION COST		Cost of heavy repairs after 12 years at $1,600 per car	Cost of heavy repairs after 18 years at $1,800 per car	Cost of heavy repairs after 24 years at $1,600 per car	Total cost of heavy repairs
Copper steel at $5,400 per car	$5,400,000	$1,600,000	.....	$1,600,000	$3,200,000
COR-TEN steel at $5,600 per car	$5,600,000	.....	$1,800,000	.....	$1,800,000

Additional cost of COR-TEN..... $ 200,000
Per Car..... $200

Total Repair Saving by COR-TEN steel	$1,400,000
Additional Cost of COR-TEN steel Construction	$ 200,000
Net Repair Saving by COR-TEN steel	$1,200,000
Net Saving per car	$ 1,200
Ratio of Net Saving to Additional Cost	600%

Note: Cost comparisons reflect steel prices in effect July 1st, 1952

In addition to a dependable supply of power during non-generating intervals on the road for the lights, air-conditioning equipment and a variety of electrical conveniences on modern streamlined passenger cars, Edison batteries afford the utmost economy of operation.

Proved Economy

A recent analysis of ALL EDISON car-lighting batteries replaced by one railroad during a period of 12 months showed that the batteries had given an average of 26.18 years of service.

A similar analysis of ALL EDISON batteries replaced by another railroad during a period of 12 months—from both air-conditioned and non-air-conditioned cars—showed an average of 18.04 years of service.

The railroads in this group have more than 2000 sets of EDISON batteries in operation on passenger-train cars.

The same construction and operating principle which result in long life also result in economy in respect to cell repairs. We have recently totaled the amounts billed by us for cell repairs, tools, paint and electrolyte during a 12-month period to the same group of railroads. The amounts were found to range from $2.46 per battery per year to $6.99 per battery per year.

It has been said that "one swallow does not make a summer" and, similarly, one battery that delivers long life and low cost could conceivably be an exception. But the records of more than 2000 sets of batteries are likely to be representative, and we believe may fairly be presented as PROOF of economy. Edison Storage Battery Division of Thomas A. Edison, Incorporated, West Orange, New Jersey. Thomas A. Edison of Canada, Limited, Montreal.

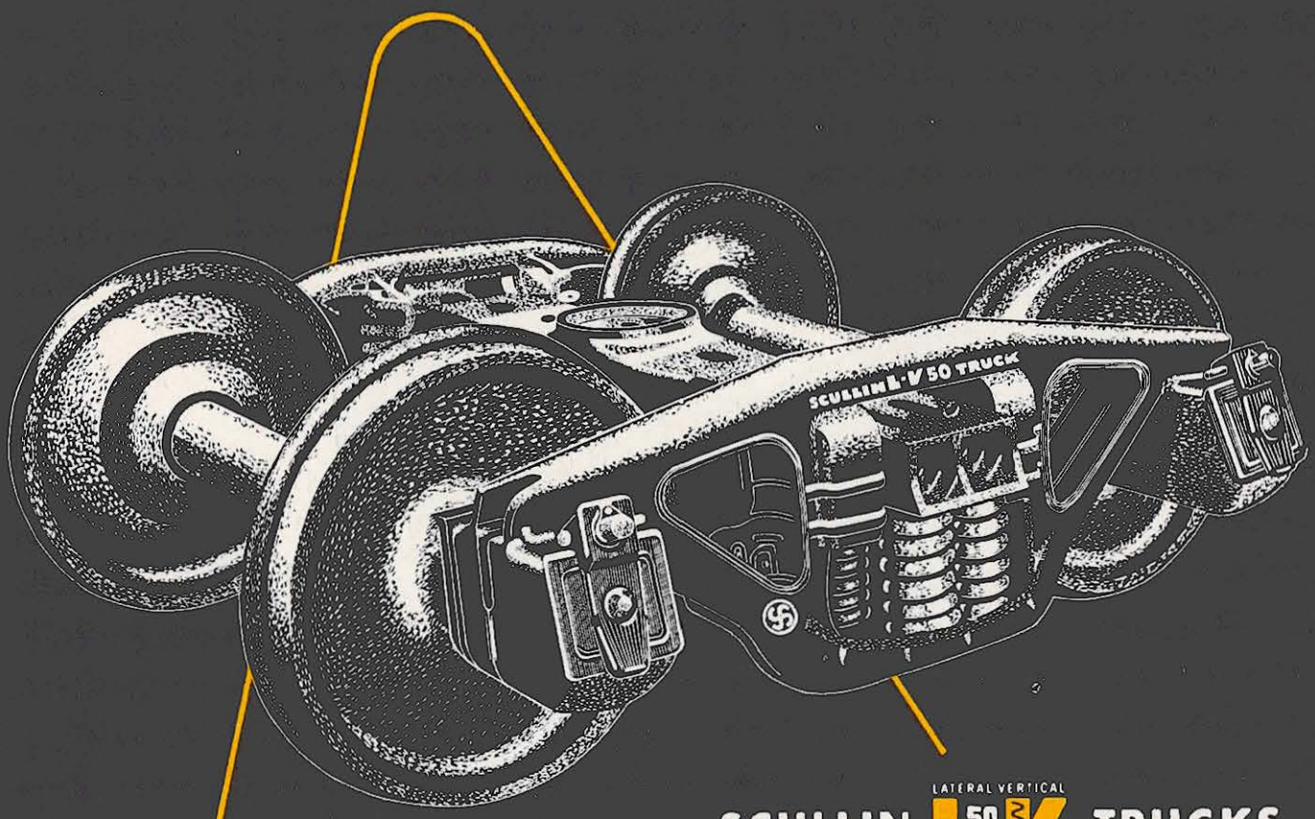
You can always rely on

EDISON

Nickel • Iron • Alkaline

STORAGE BATTERIES

LIGHT-WEIGHT BATTERIES FOR LIGHT-WEIGHT CARS



LATERAL VERTICAL
SCULLIN L 50 V TRUCKS
CUSHIONED MOTION

THE SMOOTHEST TRAFFIC-BUILDERS
BETWEEN LCL AND YOUR RAILS

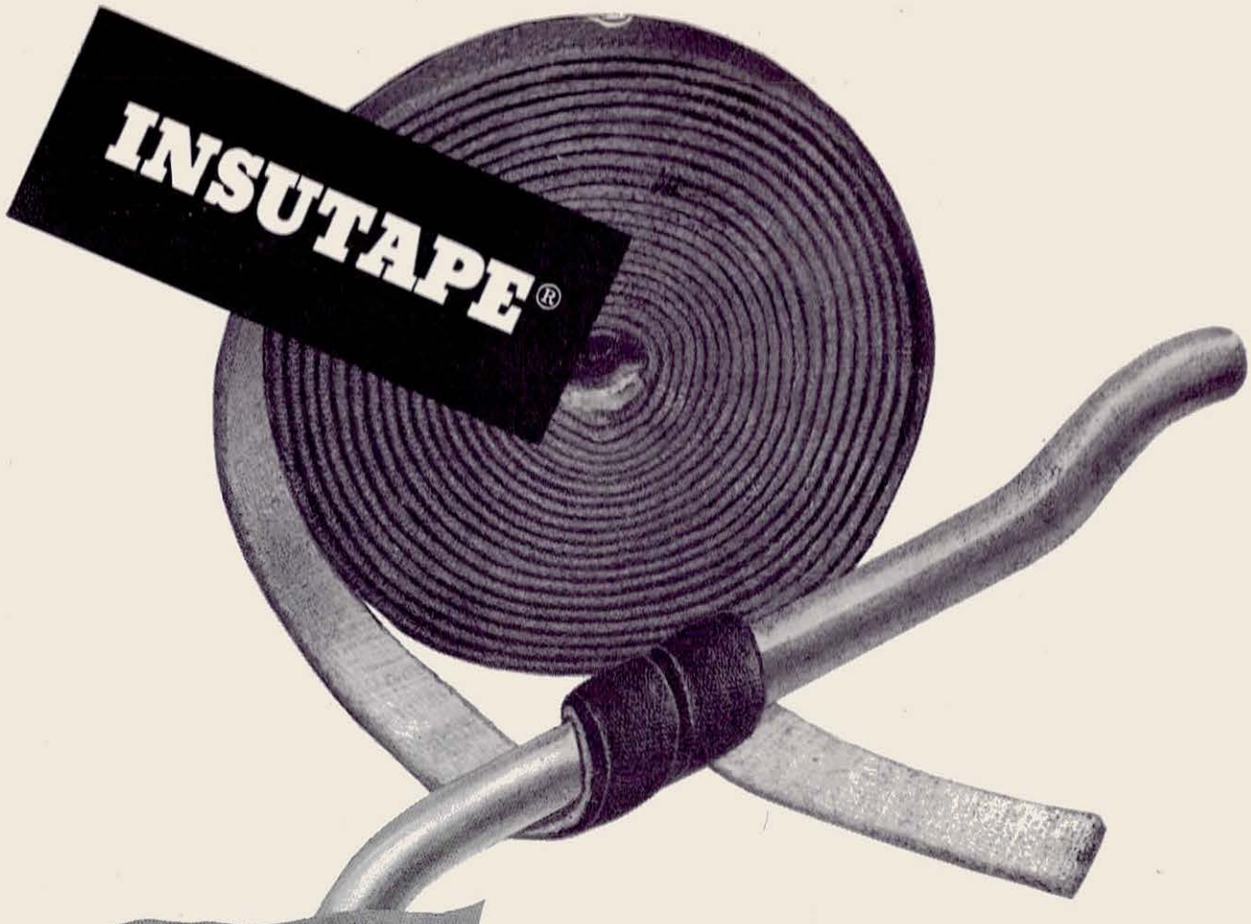
STEEL CASTINGS MANUFACTURER

NEW YORK
CHICAGO
BALTIMORE
RICHMOND, VA.

Photo courtesy Canadian Pacific Railway . . .

SCULLIN STEEL CO.

SAINT LOUIS 10, MISSOURI



INSUTAPE YOUR LOCOMOTIVE STEAM PIPING TO CUT EXPENSIVE HEAT-LOSS

Write for new Insutape Folder No. 76-135. It gives comparative fuel-cost savings, pipe-coverage figures, sizes, and complete specifications.

WHAT INSUTAPE IS:

Insutape consists of long-fiber asbestos rovings enclosed within a tubular, woven-asbestos jacket. Exposed surfaces and edges are heavily Neoprene-coated for high resistance to abrasion and the penetration of moisture, oil, and grease. Spiral wrappings are easily worked by the hands into snug pipe fit. Wire bands or clamps, at intervals, hold the insulation firmly in place.

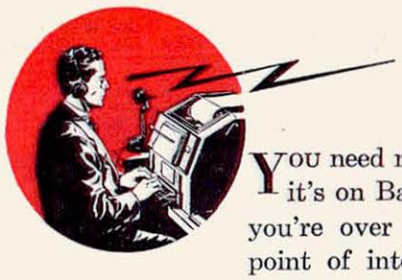
WHAT INSUTAPE DOES:

- **Wraps easily over even hard-to-get-at piping.**
- **Saves fuel.**
- **Protects personnel in cab.**
- **Provides a neat and trim appearance.**
- **Withstands wind, weather, heat, and vibration.**
- **Permits unlimited use and re-use without loss of thermal efficiency.**

UNARCO

UNION ASBESTOS & RUBBER COMPANY

332 SOUTH MICHIGAN AVENUE • CHICAGO 4, ILLINOIS

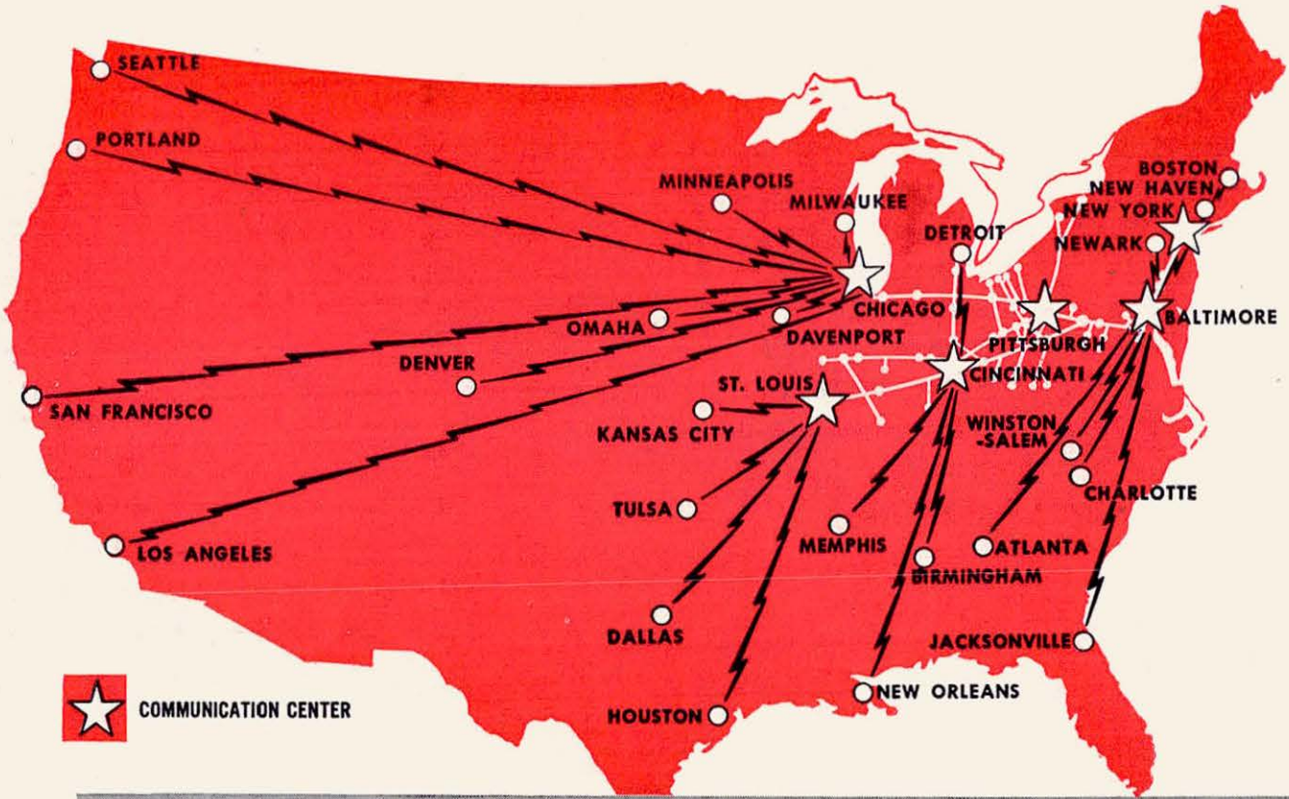


Up-to-the-minute communications keep B & O shippers advised across the nation

You need never lose touch with your car when it's on Baltimore & Ohio lines—even though you're over a thousand miles away from the point of interchange. Modern communications link our system with off-line agencies throughout the nation, and an inquiry from you on car movement or other freight business brings immediate response.

The famed Automatic Records feature of B&O's Sentinel Service functions through this network. Should the schedule of a Sentinel car be interrupted, messages go out through these communications, and both shipper and receiver are notified. Follow-up information brings them up-to-date when cars are reforwarded.

The map shows our off-line agencies and their connections with communication centers on B&O lines. Note their convenient locations which enable us to serve you quickly and efficiently. *Ask our man!*



Baltimore & Ohio Railroad

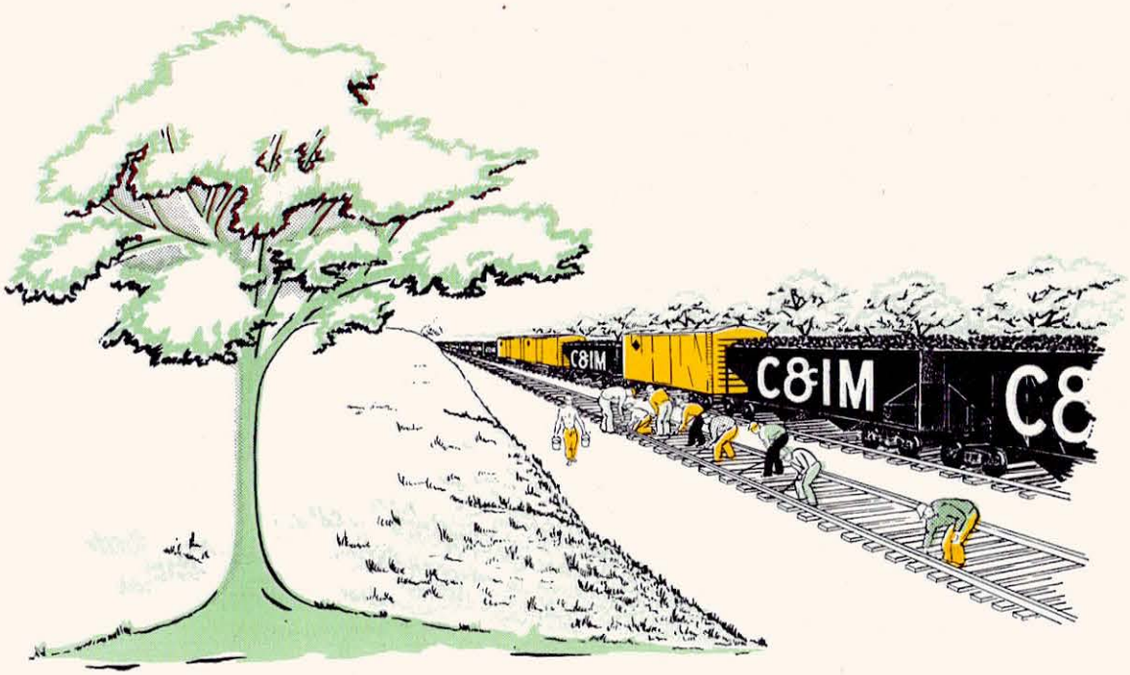
LINKING 13 GREAT STATES WITH THE NATION — B&O

Constantly *doing things* — better!

IT'S YOUR LIGHT OF LIBERTY KEEP IT BRIGHT

QUALITY V YOUNGSTOWN SERVICE

THE YOUNGSTOWN SHEET AND TUBE COMPANY
GENERAL OFFICES - YOUNGSTOWN 1, OHIO
Export Offices - 500 Fifth Avenue, New York City
Manufacturers of
CARBON - ALLOY AND YOLOY STEELS



all along the line

The 130 miles of first class modern railroad constituting the Chicago & Illinois Midland are visible evidence of the high standards and hard work of Midland men all along the line. Invisible contributions to the Midland's superior service are the loyalty of Midland employees and the personal pride each man and woman takes in seeing that his particular job is well done.

A modern railroad with good connections in the Peoria-Springfield gateway area.

CHICAGO & ILLINOIS MIDLAND

CHICAGO & ILLINOIS MIDLAND RAILWAY CO.

Stability of Operations

Industry's chief concern today is stability of operations. That ideal is achieved to a striking degree in the Seaboard Southeast.

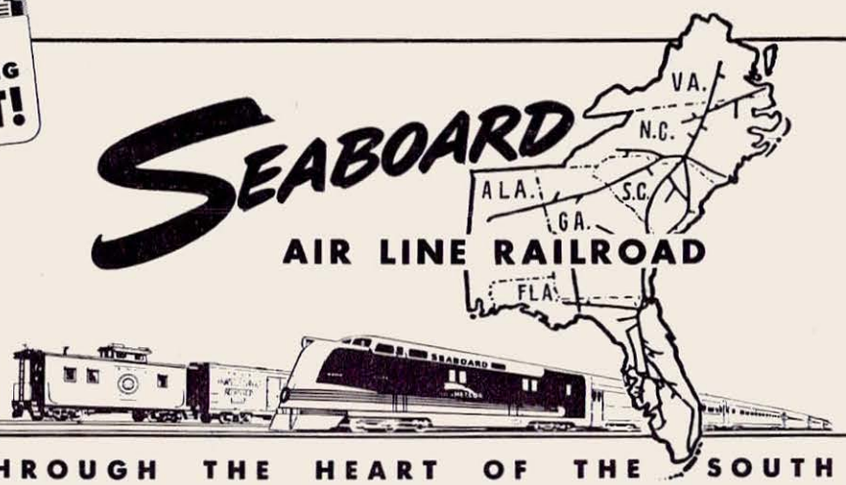
The territory served by the Seaboard Air Line Railroad is predominantly a land of small towns and rural communities, populated by industrious, hard working people who are imbued with the same motive as their employers—the desire to get ahead through their own efforts.

Somewhere in the Seaboard Southeast there is a community which will fulfill your ideals as a plant location. An expression of your requirements will bring specific recommendations and full supporting data.

ADDRESS: Warren T. White, Assistant Vice President,
Seaboard Air Line Railroad,
Norfolk 10, Va.

GROW with the GROWING SOUTHEAST!

SEABOARD AIR LINE RAILROAD



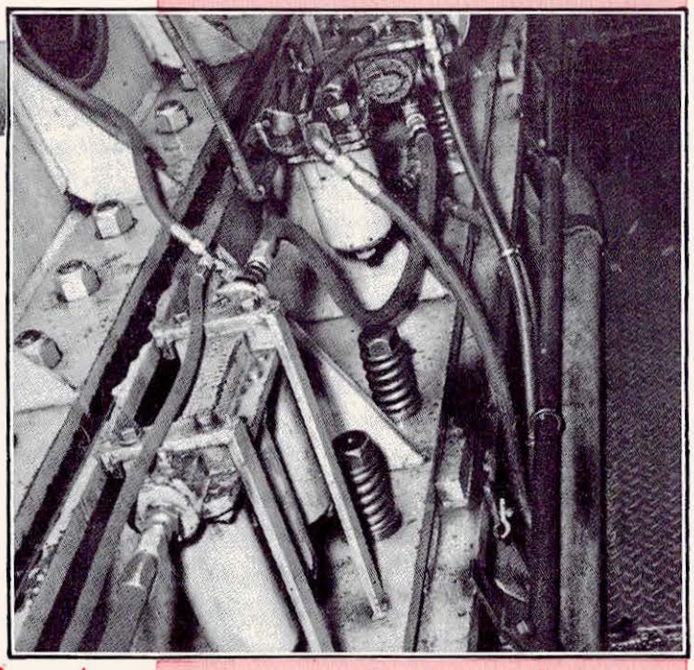
THROUGH THE HEART OF THE SOUTH

FLEXIBLE HOSE LINES

WITH DETACHABLE, REUSABLE FITTINGS

Aeroquip

Always first
ON DIESEL LOCOMOTIVES



Save time, save money and reduce inventory by putting the "Aeroquip Idea" to work for you. With Aeroquip you make your own flexible hose assemblies by cutting bulk hose to desired lengths and attaching Aeroquip Reusable Fittings. Assembly can be accomplished quickly and easily right on the job. No special tools are required. No training is needed. Aeroquip high quality Flexible Hose Lines improve performance and reduce maintenance. They eliminate leaks due to vibration and operate dependably at extremely high or low temperatures. They are widely used for hydraulic fluid, water, air, lubricating oils, gas and Diesel fuels and many other fluids.

Always first

B.D. Check into this money saving idea — Joe

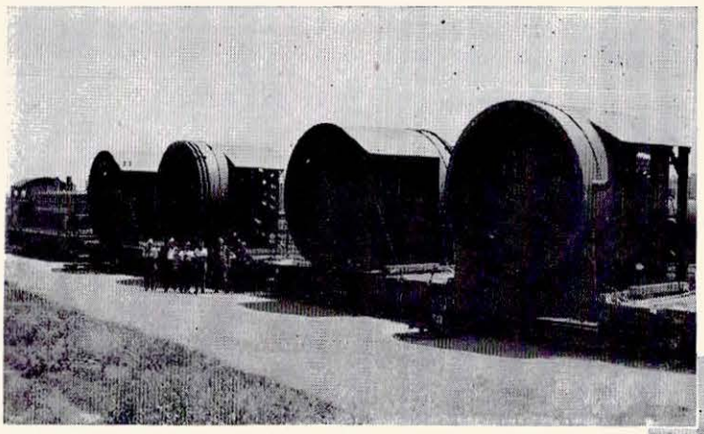
Aeroquip Flexible Hose Assemblies, as used on this Diesel locomotive engine, eliminate failures due to vibration and extreme temperatures. Aeroquip Hose Lines are also used on modern streamliners in the air conditioning, refrigeration and hydraulic systems.

AEROQUIP CORPORATION

JACKSON, MICHIGAN

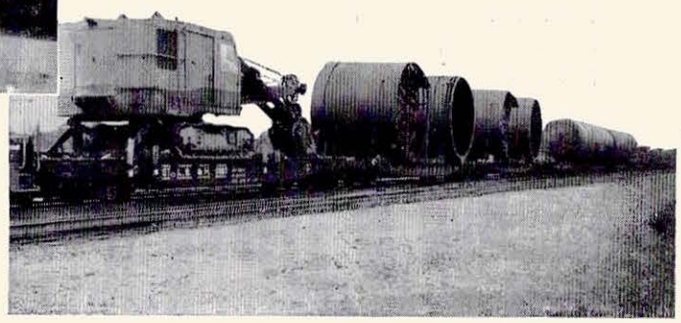
SALES OFFICES: BURBANK, CALIF. • DAYTON, OHIO • HAGERSTOWN, MD. • HIGH POINT, N. C. • MIAMI SPRINGS, FLA. MINNEAPOLIS, MINN. • PORTLAND, ORE. • WICHITA, KAN. • TORONTO, CANADA

AEROQUIP PRODUCTS ARE FULLY PROTECTED BY PATENTS IN U.S.A. AND ABROAD



A SPECIAL TRAIN OF INDUSTRIAL GIANTS

recently moved over KCS Lines—huge condensers, a power shovel, oil storage tanks requiring two cars each, and a crane so big it had to be loaded on three cars. Such shipments require special equipment and routes where bridges, buildings and other structures afford clearance.



BIG TOOLS FOR BIG PRODUCTION!

Construction up 200% . . . production up 300% . . . these summarize the story of industrial growth along Kansas City Southern Lines in the past decade.

No wonder! Here are concentrated many of America's most vital needs—oil, gas, coal, lead, zinc, iron, sulphur, salt, timber, and a score of other important raw materials. And here is where the BIG producers are performing industrial miracles—in great oil refineries . . . mines . . . steel mills . . . chemical, aluminum, magnesium, synthetic rubber, ordnance, aviation and naval stores plants.

But all business is not BIG along Kansas City Southern Lines, and though we have the equipment, the force and the know-how to do the BIG transportation jobs, we pride ourselves in giving careful attention to the little shipments, too!

So—no matter whether you have a big "problem child" to transport, or merchandise any carrier might handle—you can count on us to give it everything we've got . . . *which is plenty!*

J. M. Scott
Vice President, Traffic

KANSAS CITY SOUTHERN Lines

SIGNAL SERVICE with SAFETY FIRST
On the main line or in the yard, the Fairbanks-Morse Model 101 features comfort, convenience — and above all else *Safety First.*
Full vision cab . . . low, rail-hugging center of gravity . . . positive drive . . . immediate reverse and four-wheel brakes assure the utmost in convenient comfortable operation — the utmost in safety.
Add the many other plus features of the Model 101 and you'll see why it is the ideal car for all maintenance, inspection and signalling service on your road. See your Fairbanks-Morse railroad specialist or write Fairbanks, Morse & Co., Chicago 5, Ill.
FAIRBANKS-MORSE
a name worth remembering when you want the best
RAIL CARS • DIESEL LOCOMOTIVES • ELECTRICAL MACHINERY • PUMPS
SCALES • HOME WATER SERVICE EQUIPMENT • FARM MACHINERY • MAGNETOS

Ann Arbor Cuts Locomotive Maintenance Costs 45% With Alco-GE Diesel-Electrics

Dieselization—with dependable Alco-GE locomotives—has enabled the Ann Arbor railroad to:

- Cut locomotive maintenance costs 45%
- Increase average train tonnages 15% while boosting train speeds 8%
- Increase operating revenues by $2.35 per train mile.

In its "bee-line" route of direct freight service between the East and Northwest, the Ann Arbor has found husky, economical Alco-GE diesel-electrics to be the answer to all its motive power problems.

This modern motive power is leading the way to a new era in the Ann Arbor's 69-year-old history of "Double A" service to shippers . . . a major step in this fine railroad's competitive drive to win more and more tonnage to the rails. 113-303

Alco GE

AMERICAN LOCOMOTIVE
and
GENERAL ELECTRIC

ANN ARBOR
51
ANN ARBOR RAILROAD

MO-PAC

maintains its own

RADIO NETWORK

to move trains swiftly, dependably

TRAIN RADIO . . . another reason why MO-PAC moves *you* and *your* merchandise "on time" throughout the West-Southwest. Vital messages and up-to-the-second instructions from engineer to conductor . . . or wayside station . . . or to an engineer on another train keep the tracks clear along our 10,000 mile system.

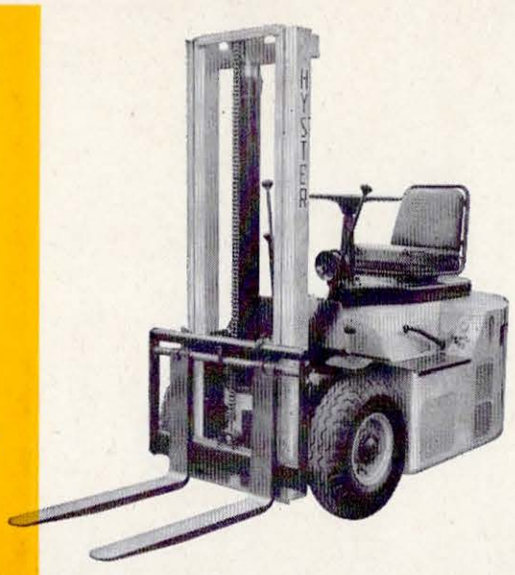
By the end of this year every diesel-powered MISSOURI PACIFIC train, passenger and freight, will be radio equipped.

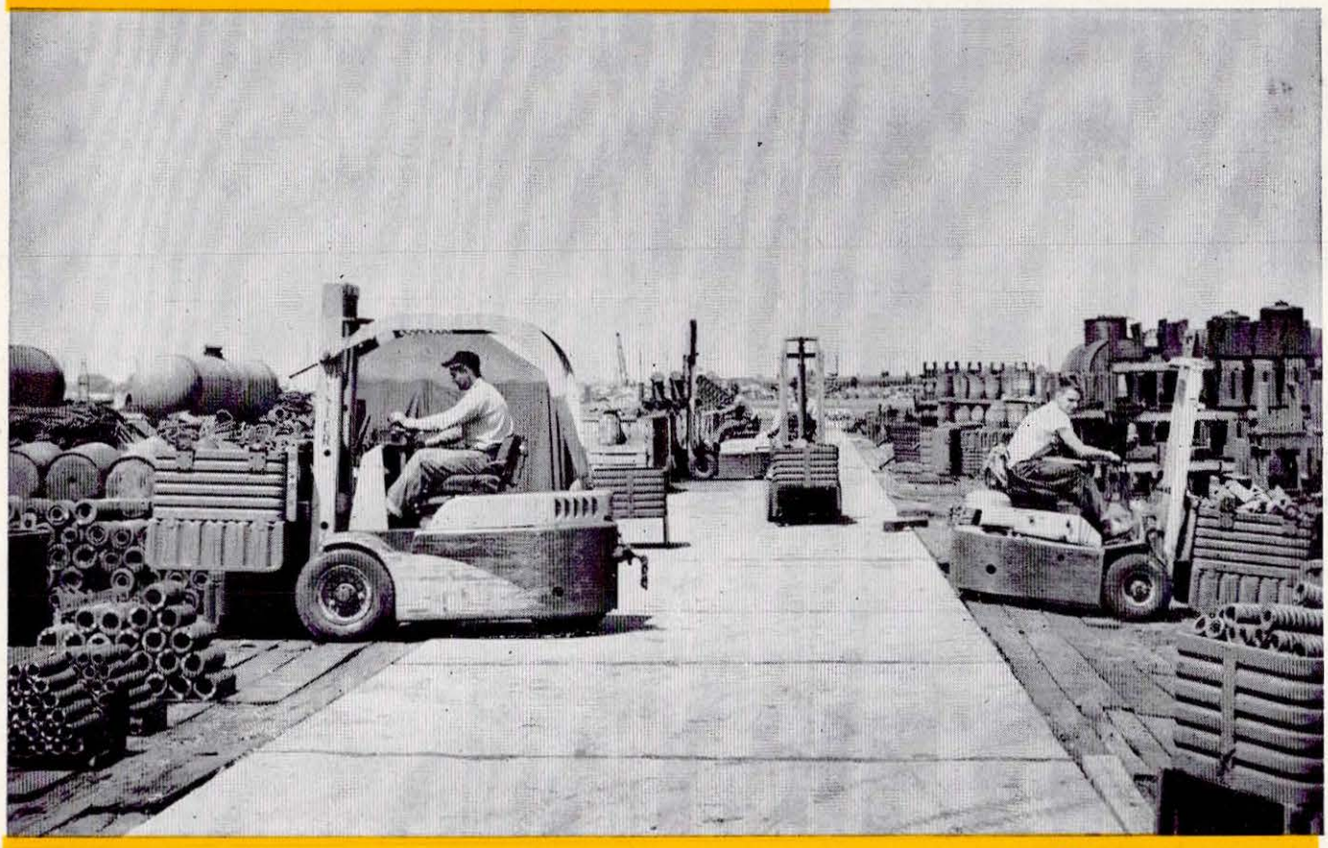
MISSOURI PACIFIC LINES

SERVING THE WEST-SOUTHWEST EMPIRE

Why RAILROADS use HYSTER®

Industrial Lift Trucks





ALL MODELS of Hyster trucks — including fork-type machines, Karry Kranes, Straddle Trucks and Turret Trucks, transport materials with speed and efficiency for railroads.

EAGER BEAVERS, they roll on pneumatic tires; move fast, stack high, work equally well in the open spaces of yard storage or the close quarters of box cars and crowded warehouses.

EASY TO OPERATE AND SERVICE. Conventional controls. Comfortable, adjustable form-fitting seat for operator. Excellent visibility. Truck design makes easy all inspection and service operations.

SEE YOUR HYSTER DEALER for a demonstration and list of owners. Or write for literature.

HYSTER

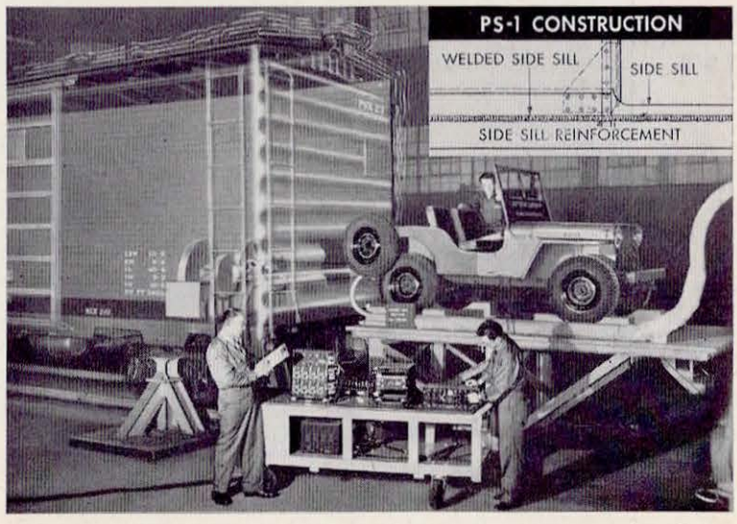
HYSTER COMPANY

THREE FACTORIES

2932 N. E. Clackamas Street, Portland 8, Oregon
1832 North Adams Street . . . . Peoria 1, Illinois
1032 Myers Street . . . . . Danville, Illinois

Field research looks for significant construction data that can be incorporated in the PS-1 and thus minimize costly maintenance and delays. For instance, "on-line" studies by Pullman-Standard Sales and Service Engineers indicate that PS-1 construction of side sill and reinforcement at the doorway has overcome costly maintenance experienced at this location in many other current designs of cars.

Many railroads have reordered the PS-1 in quantity as many as four or five times. Orders can be placed for one or as many PS-1s as required because each PS-1 is completely standardized and each is built to the strict specifications of Pullman-Standard. Quality design and construction plus production line economy have been combined to supply railroads with an outstanding box car value.



Pullman-Standard Research & Development Laboratories reproduced "on line" conditions encountered at approximately 50 mph. to discover possible trouble spots. Two eccentric flywheels mounted over the center sill at the bolster build up a vibration in the box car so severe that the lading actually leaves the floor. This and other tests result in the continuous improvement of the PS-1.

SUBSIDIARY OF

CAR BUILDING DIVISION **PULLMAN**

79 EAST ADAMS STREET, CHICAGO 3, ILL. • BIRMINGHAM

"On-line" operating conditions

Pullman-Standard Sales and Service Engineers look for trouble by studying actual operating conditions. In their constant search for facts which might affect the performance of the PS-1, they can often anticipate failures and head them off before they happen. Thus, the PS-1 is ready to meet and beat the most severe operating conditions when it comes off the production line.

set the pace for keeping the PS-1

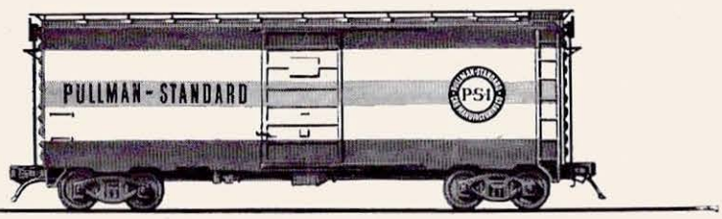
Research that starts in the field assures constant improvement of PS-1 construction and design, so that railroads can be supplied with the most advanced freight car that can be built. One example of the field data that became a product improvement is shown in the illustration at the left.

up to the "Pullman" standard

Railroad acceptance reveals that the standardized PS-1 merits the leadership it has acquired in just five years. The 50,000 PS-1s ordered are proof that quality as well as economy leads to the selection of this outstanding box car. If you require fast delivery of a top-flight box car—at lower costs—get the facts on the PS-1.

When you come to Chicago, you are cordially invited to visit our Michigan Avenue Industrial Showroom

The RECORD BREAKING **PS-1**

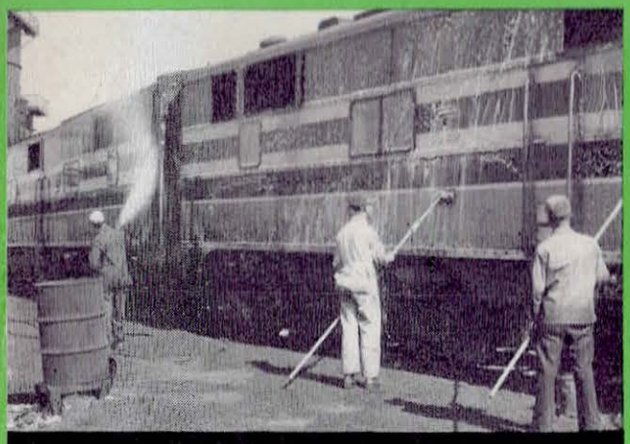


PULLMAN INCORPORATED

PULLMAN-STANDARD CAR MANUFACTURING COMPANY

PITTSBURGH • NEW YORK • SAN FRANCISCO • WASHINGTON

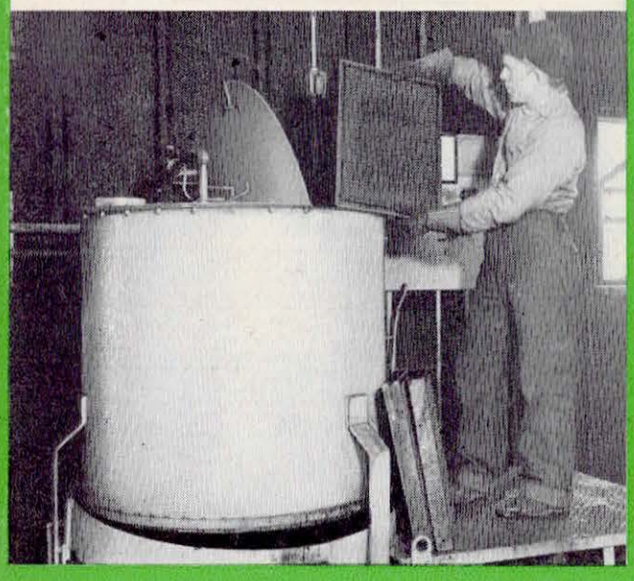
DEARBORN'S working



with Cleaners

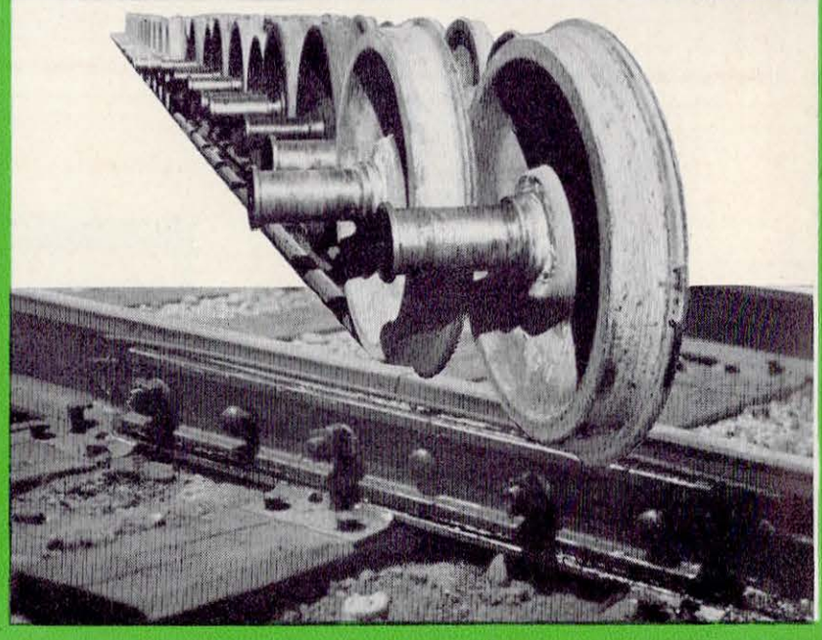
Dearborn inhibited Exterior Cleaners, used with or without mechanical car washers, remove surface grime and dirt films—keep painted and lacquered surfaces bright and new. Economical, easy-to-use Dearborn Cleaners contain no inert ingredients—are free rinsing—harmless to painted surfaces.

Dearborn provides a complete line of Interior Cleaners for diesel locomotives, passenger and baggage cars, roundhouses, stations, and offices. Whatever your cleaning requirements, you'll find a Dearborn cleaner specifically designed to handle the job safely and economically.



with NO-OX-ID's

For years leading railroads have relied on Dearborn NO-OX-ID's to protect surfaces of their valuable equipment against destruction by corrosion. Bridges, car journals, rail joints—all surfaces subjected to moisture, brine, live coal, cinders and locomotive gases need positive NO-OX-ID protection to stop metal loss and reduce maintenance costs.



DEARBORN CHEMICAL COMPANY

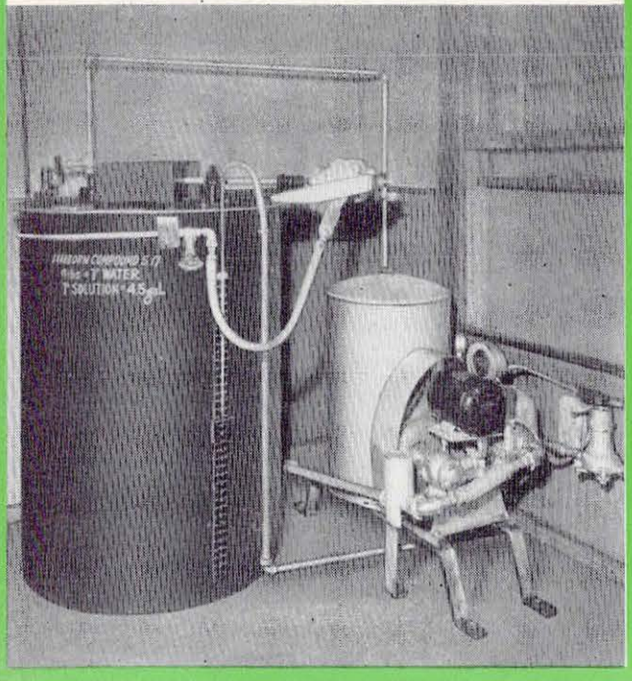
MERCHANDISE MART PLAZA • CHICAGO 54, ILLINOIS

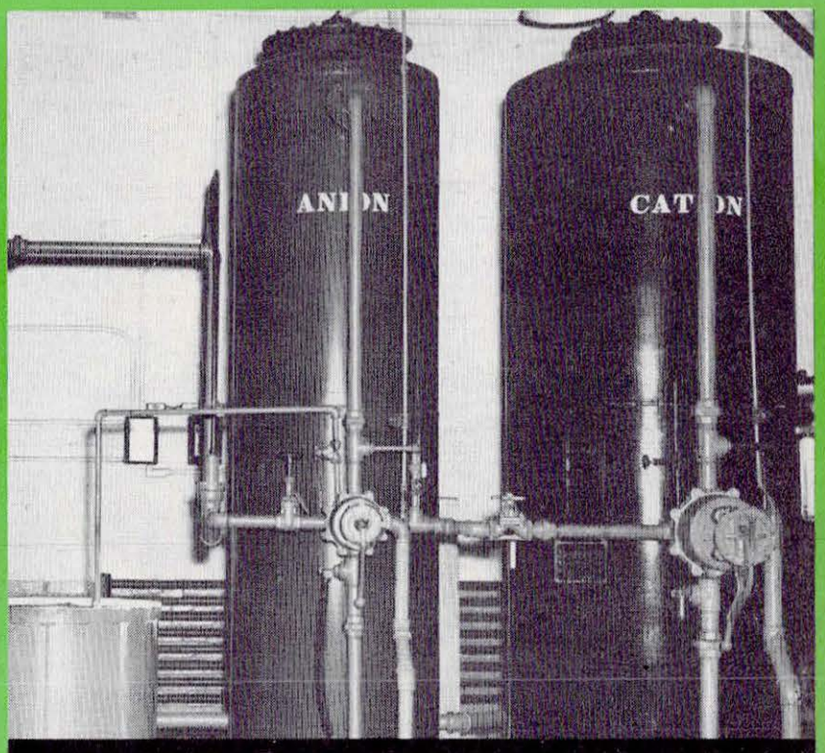
on the RAILROAD...

with Formula 517

De-Ionized water, conditioned with Formula 517, provides complete protection against scale formation and corrosion in diesel cooling systems.

Even when softened water is not available, Formula 517 is recommended to guard against scale formation and corrosion. Cooling systems of engine-driven auxiliary generators, motor cars, and work equipment and the radiators of trucks and buses need this protection.

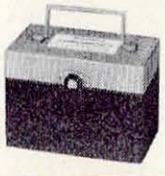




in de-ionizing Plants

A Dearborn De-Ionizing system, built to the requirements of your railroad, will deliver high purity water at low cost. Dearborn Zeolite plants are also available for low-cost, scale-free feed water. These waters, plus Dearborn finishing treatments, assure trouble-free performance for steam generators, package boilers, and cooling systems.

Have You Requisitioned Your Dearborn Chromokit?



It provides the only fast, simple, accurate and economical way to determine the chromate content of your diesel cooling water. One drop of water on a chemically treated card tells and records the story—easy to use—even by untrained personnel.

USE THE COUPON FOR INFORMATION on the complete, versatile line of Dearborn Railroad Cleaners

Dearborn

TRADE MARK REGISTERED

THE LEADER IN WATER TREATMENT AND RUST PREVENTIVES

Dearborn Chemical Company
Merchandise Mart Plaza, Dept. RA
Chicago 54, Illinois

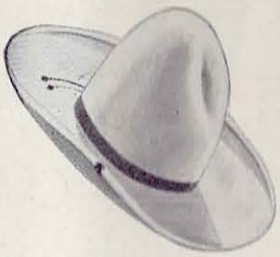
( ) Send information on Dearborn Cleaners
( ) Have a Dearborn Engineer call

Name.....

Railroad.....

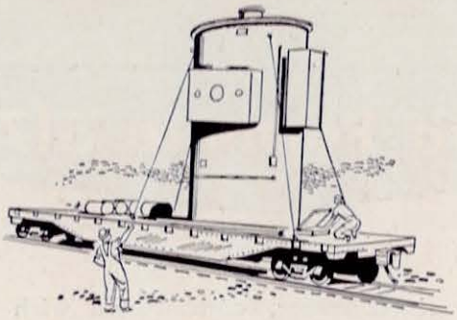
Address.....

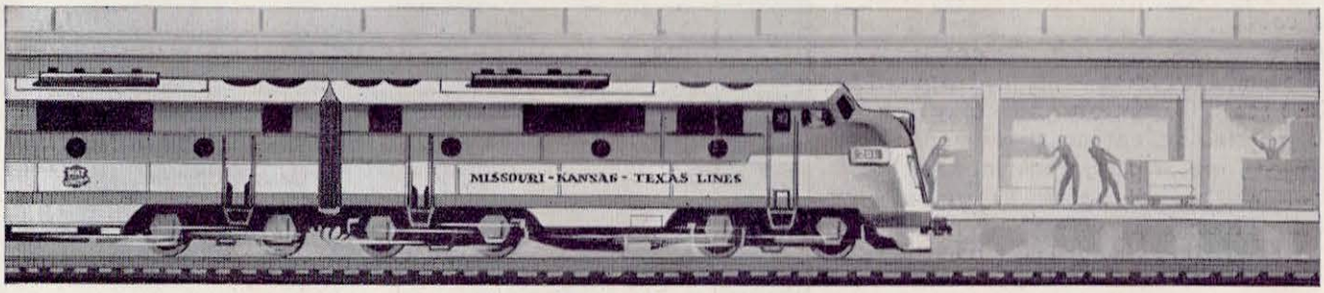
City.....*Zone*.....*State*.....



Who Makes Sure Your Southwest Shipment Gets There SAFE?

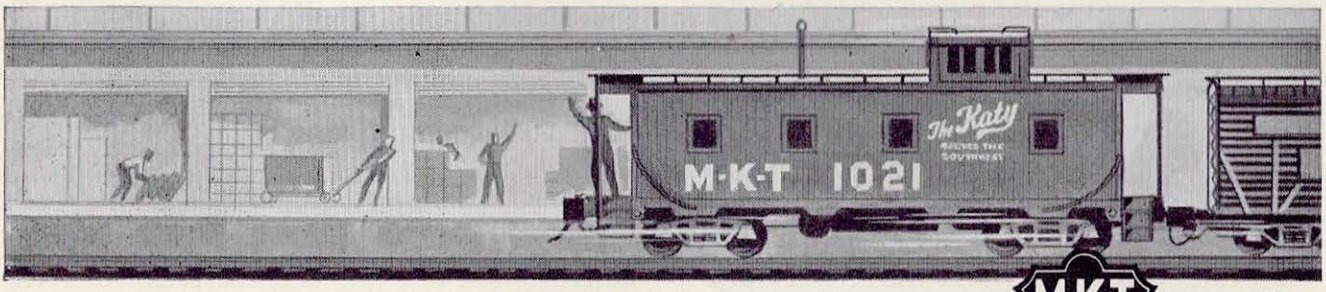
People. Careful *Katy* people, trained and skilled in all the latest freight handling methods. Specialists, equipped with every up-to-date device to load, ship, unload and process your goods safely, efficiently, on time. Whether you're shipping fragile light bulbs or tremendous transformers, remember all the people whose care and attention make Katy freight service something "extra." Let the friendly, Southwestern hat remind you to ship Katy, Southwest!





the diesel crew . . .

the terminal crew . . .



the train crew . . .

12a

Your local Katy Representative will be glad to help you with your shipping problems—tell you more about Katy's modern freight service and how you'll benefit by shipping and traveling *Katy*, Southwest.

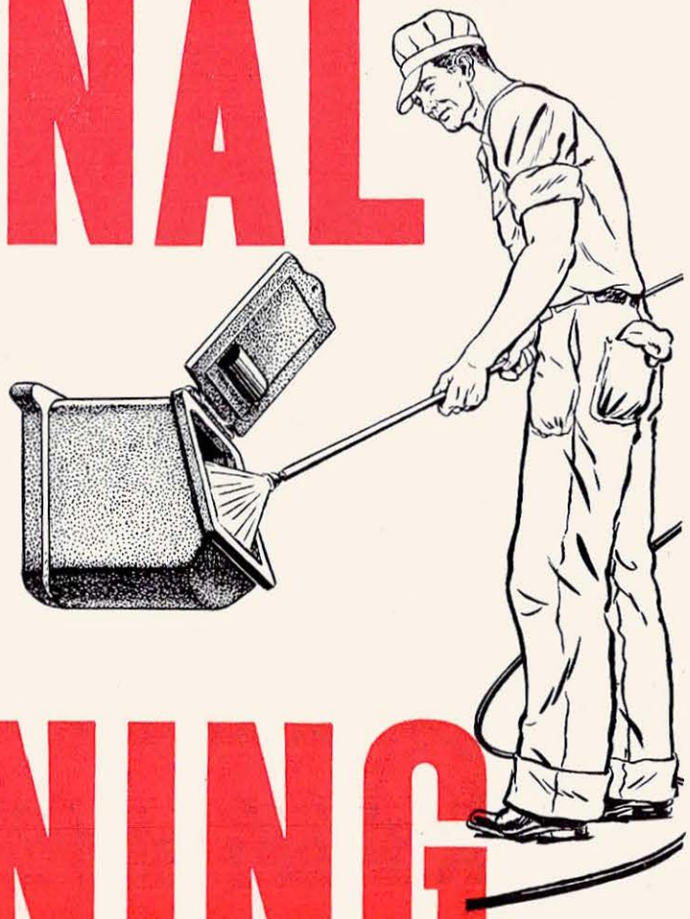
M-K-T KATY RAILROAD MISSOURI-KANSAS-TEXAS

THE KATY RAILROAD

NATURAL ROUTE SOUTHWEST

JOURNAL BOX CLEANING

(AND CONTAINED PARTS)



on your road can now be done EASIER, FASTER at LOW COST by using new Oakite MECHANICAL method

Cleaning journal boxes on freight cars is an essential operation in connection with ANNUAL REPACKING and INSPECTION as covered by A.A.R. Rule No. 66 and modifications. A newly-developed Oakite method now enables you to handle this important cleaning operation at extremely LOW COST. With a specially designed Oakite solvent-type material, cleaning is performed EASILY, SPEEDILY and SAFELY.

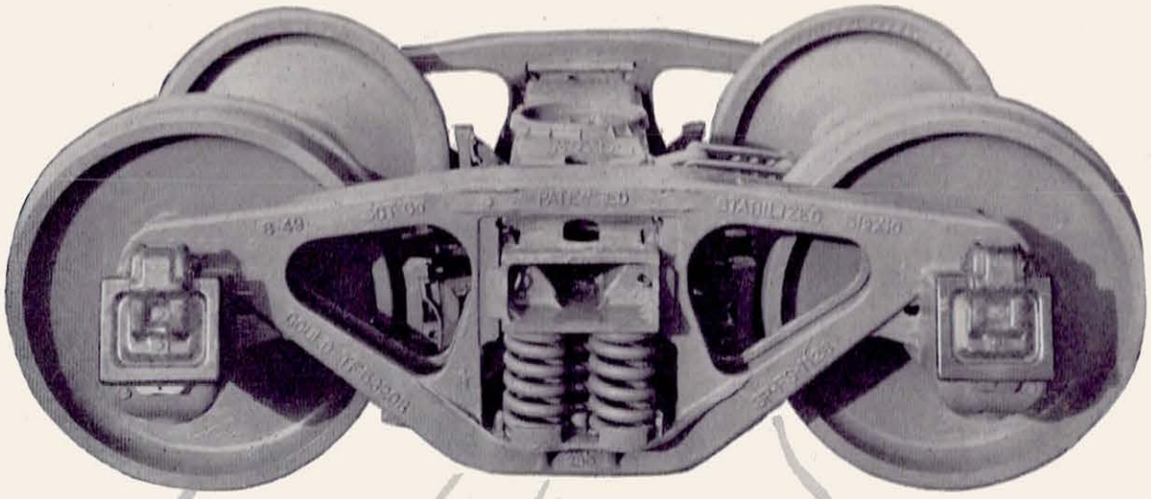
This time-saving Oakite method now used by a number of roads is MECHANICAL. It eliminates a lot of hand-work. It saves money. It helps prevent hot boxes.

YOU CAN SAVE UP TO $1.00 PER CAR!

Depending on former method employed, you can save up to $1.00 per freight car by using the Oakite method. In fact, what you save more than pays for the cost of the Oakite material. Superintendents of Car Shops, Asst. Superintendents, General Car Foremen and others are invited to send for details. No obligation, of course.

OAKITE PRODUCTS, INC., 46 Rector Street, NEW YORK 6, N. Y.
In Canada: Oakite Products of Canada, Ltd. 65 Front St. East, Toronto, Ont.

OAKITE RAILWAY SERVICE DIVISION



BARBER

STABILIZED TRUCK

takes them all (LIGHT LOADS / MEDIUM LOADS / HEAVY LOADS) in its stride

Thanks to Variable Friction

All loads "look alike" to Barber Stabilized Trucks; they are designed to adapt themselves to all conditions encountered in freight service. The patented variable pressure of the friction elements automatically adjusts itself to all loadings, from empty to maximum—and to all speeds.

In addition, Barber *Side* Springs carry part of the load, increasing capacity.

These facts are proved by Test Data—and by Analysis of Savings in damage claims on Barber-equipped cars.

Over 315,000 car sets of Barber Stabilized Trucks have been specified.

5910RR

STANDARD CAR TRUCK COMPANY
332 SOUTH MICHIGAN AVENUE, CHICAGO, ILLINOIS

Does this belong on management's desk?

Yes . . . Because mechanized materials handling today offers management its biggest opportunity for cutting costs . . . speeding production.

And, whatever *your* business, if you move materials from one point to another . . . and employ as many as 3 men at it . . . you can cut your handling costs from 50 to 75%. Let us tell you how Yale materials handling equipment is saving money and manpower in every one of America's basic industries.

YALE* **Materials Handling Equipment**

*Registered Trade Mark

GAS AND ELECTRIC INDUSTRIAL TRUCKS • WORKSAVERS • HAND TRUCKS • HAND AND ELECTRIC HOISTS • PUL-LIFTS

YALE has the answers — send for FREE booklet

What's the first step management should take in mechanizing handling operations in an older plant?

Which Yale Truck is specially designed to operate in areas too confined for conventional trucks?

How did Yale reduce handling hours 58% in the rubber industry?

What exclusive feature in Yale Industrial Trucks lengthens clutch life 3 to 6 times . . . eliminating costly "down time"?

MAIL THIS COUPON TODAY

The YALE & TOWNE Manufacturing Co., Dept. 489
Roosevelt Blvd. & Haldeman Ave., Phila. 15, Pa.

How can YALE materials handling equipment save money for me?

Please send my free copy of *Picture Story of Yale Materials Handling Equipment.*

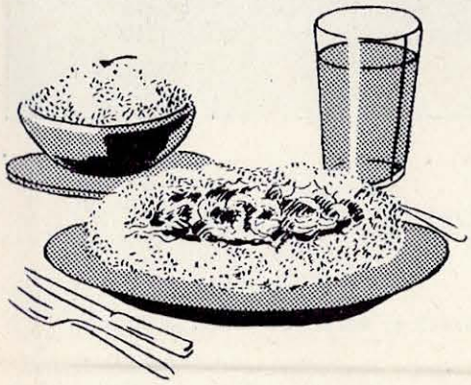
Company_____

Name_____ Title_____

Street_____ City_____ State_____

In Canada write: The Yale & Towne Mfg. Co., St. Catharines, Ont.

WORLDS of RICE!

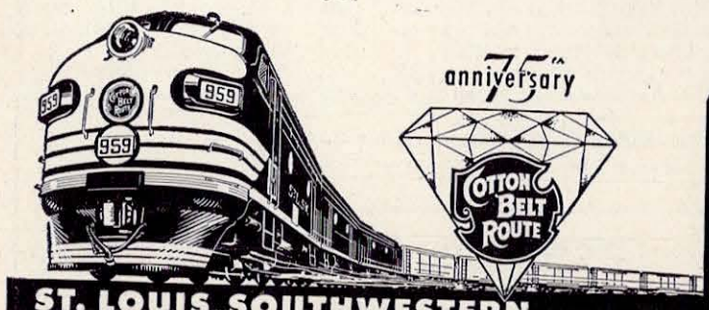


last year the Cotton Belt Route hauled

235,013 TONS of RICE

enough to supply two meals of rice for every man, woman and child in the entire world!

Adding to the growth and prosperity of the Arkansas, Louisiana and Texas rice producers has been a goal of the Cotton Belt Route. SERVICE has been our *watchword* since 1877.

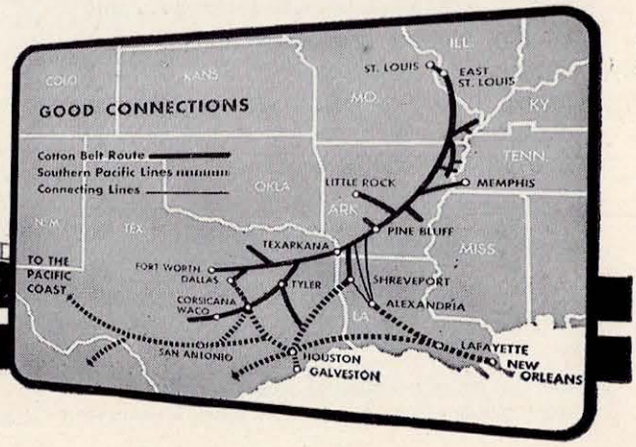


75th anniversary

COTTON BELT ROUTE

ST. LOUIS SOUTHWESTERN

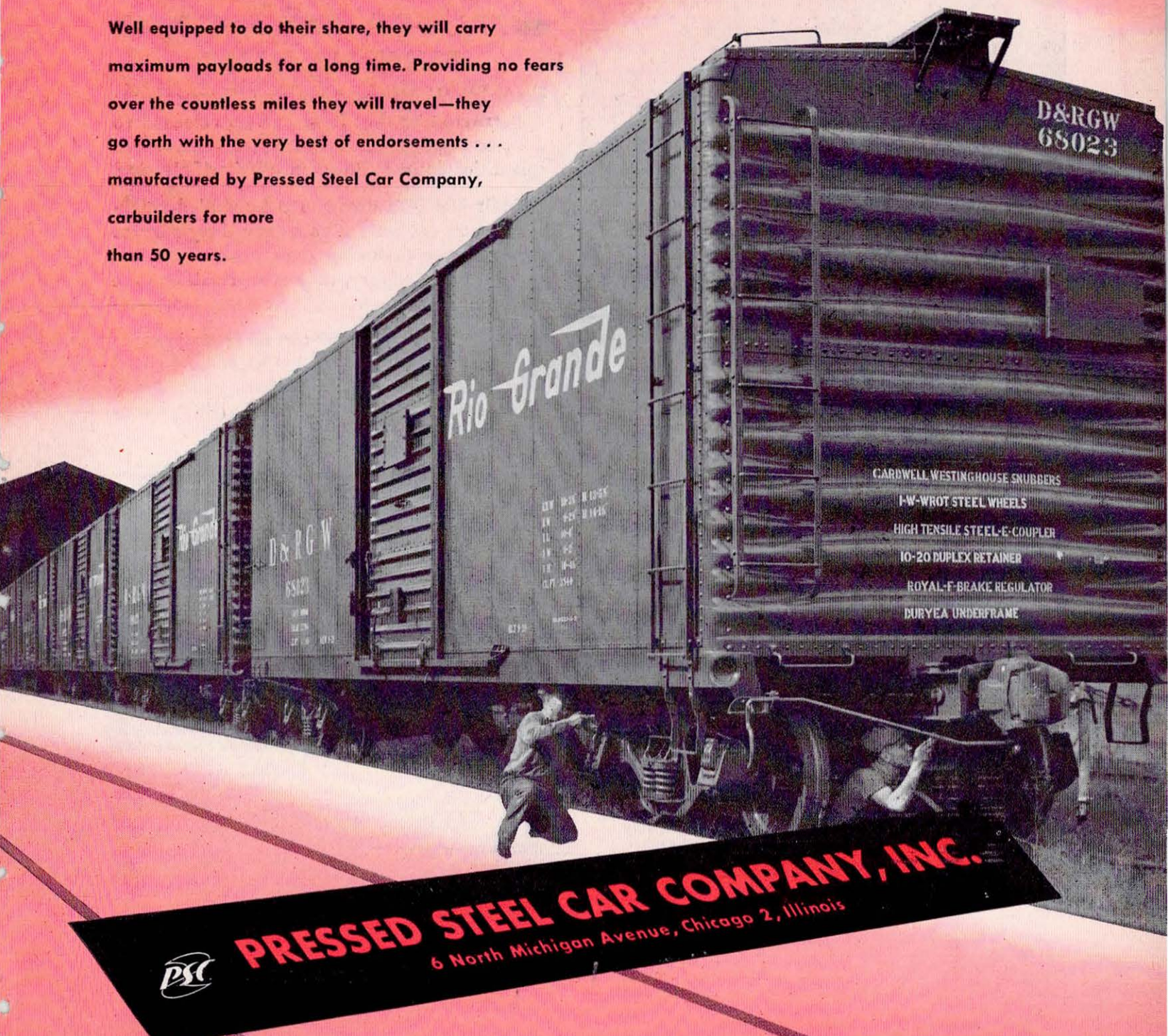
RAILWAY LINES



Ready, Willing and ABLE!

The future is bright for these cars . . . shown at the very beginning of their usefulness. Direct from the assembly line, they are headed for years of satisfying a part of America's needs.

Well equipped to do their share, they will carry maximum payloads for a long time. Providing no fears over the countless miles they will travel—they go forth with the very best of endorsements . . . manufactured by Pressed Steel Car Company, carbuilders for more than 50 years.



PRESSED STEEL CAR COMPANY, INC.

6 North Michigan Avenue, Chicago 2, Illinois

ALL-RAIL ROUTE TO CUBA

VIA

WEST INDIA FRUIT & STEAMSHIP COMPANY, INC.

FAST, regular direct movement between any point in the United States or Canada and Cuba of any freight that can be handled by rail.

Cars loaded by shippers and routed via Ferry arrive Cuba intact, thus eliminating handling and necessity of export crating or packing.

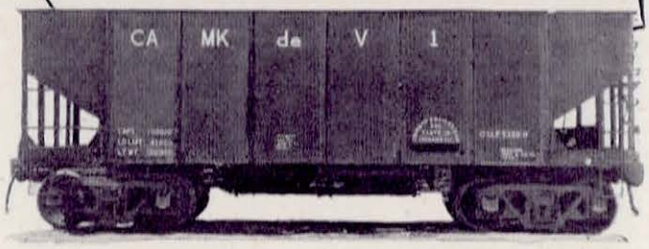
To help alleviate the anticipated shortage of cars, 150 new "WIF" (West India Fruit) box cars are being placed in service.

For bookings or rate information contact:

WEST INDIA FRUIT & S. S. CO., INC.
FLORIDA-HAVANA R. R. CAR FERRY SERVICE

West Palm Beach, Fla. — P. O. Box 551, Tel. 2-1673
New York 7, N. Y. — 30 Church St. — WOrth 4-0724
Chicago 2, Ill. — 6 N. Michigan Ave. — RAndolph 6-0168
Detroit 26, Mich. — 235 LaFayette Bldg. — WOodward 2-4080

FOR SALE
50 TON ALL STEEL SELECTIVE HOPPER CARS



IDEAL FOR BALLAST AND BULK HAULING

Featuring all new steel bottoms, these cars are constructed so that load can be released to sides or center of track free of the rails, and in quantities desired. They are 100% self-clearing.

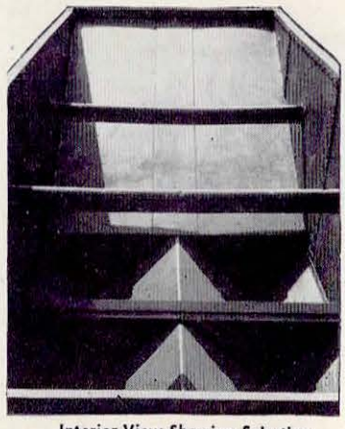
Rebuilt in CFC's own shops by skilled workmen, each car will give heavy duty service under severe operating conditions. Available for prompt delivery, they are priced to give exceptional value.

Chicago Freight Car's 50 ton all steel selective hopper cars will prove to be efficient and economical to operate for ballasting operations or as revenue cars for hauling bulk commodities.

GENERAL SPECIFICATIONS:

Capacity, Nominal: 100,000 lbs.
Light Weight App.: 44,000 lbs.
Load Limit: 125,000 lbs.
Length over strikings: 31'11"
Cubic Capacity, (with normal heap): 1,620 Cu. Ft.
Inside Width: 9'5-1/2"
Inside Length: 30'6"

Write today for complete specifications.



Interior View Showing Selective Unloading and 100% Self-Clearing Construction

CHICAGO FREIGHT CAR... and parts co.
CHICAGO, ILL. — AUBURN, WASH. — PUEBLO, COLO.

MAIN OFFICE: 228 North LaSalle Street, Chicago 1, Illinois

WILLIE STUMPS COUNTRY

A Vote for WILLIE is a Vote for BETTER SHIPPING

NEW YORK, Aug. 8 (RP)—Tee Pee Willie today told newsmen, "T. P. & W. never let-um red-tape tie-up shipments. Highball freight past congested big-city freight yards."

WASHINGTON, Aug. 12 (RP)—"T. P. & W.'s connections all on up-and-up," Candidate Tee Pee Willie told a group of congressmen today. "Our connections help-um shipper make-um more money by diverting shipments. You find-um all our connections listed on Railroad Party ballot."

BROKEN BOW, OKLA., Aug. 17 (RP)—Deep in "Injun territory," Candidate Tee Pee Willie relaxed today with a peace pipe. "No smoke on T. P. & W.," he said. "Engines all dieselized."

DALLAS, TEX., Aug. 23 (RP)—Texans today rallied around Candidate Tee Pee Willie. "T. P. & W. is straight-shooter," said Willie. "Always aim shipment straight at shipper's destination with no delay."

LOS ANGELES, CAL., Aug. 29 (RP)—Members of the Los Angeles Chamber of Commerce today heard Tee Pee Willie's views on the weather: "Sun always shine on T. P. & W. shippers. No wonder. Shipments never come late."

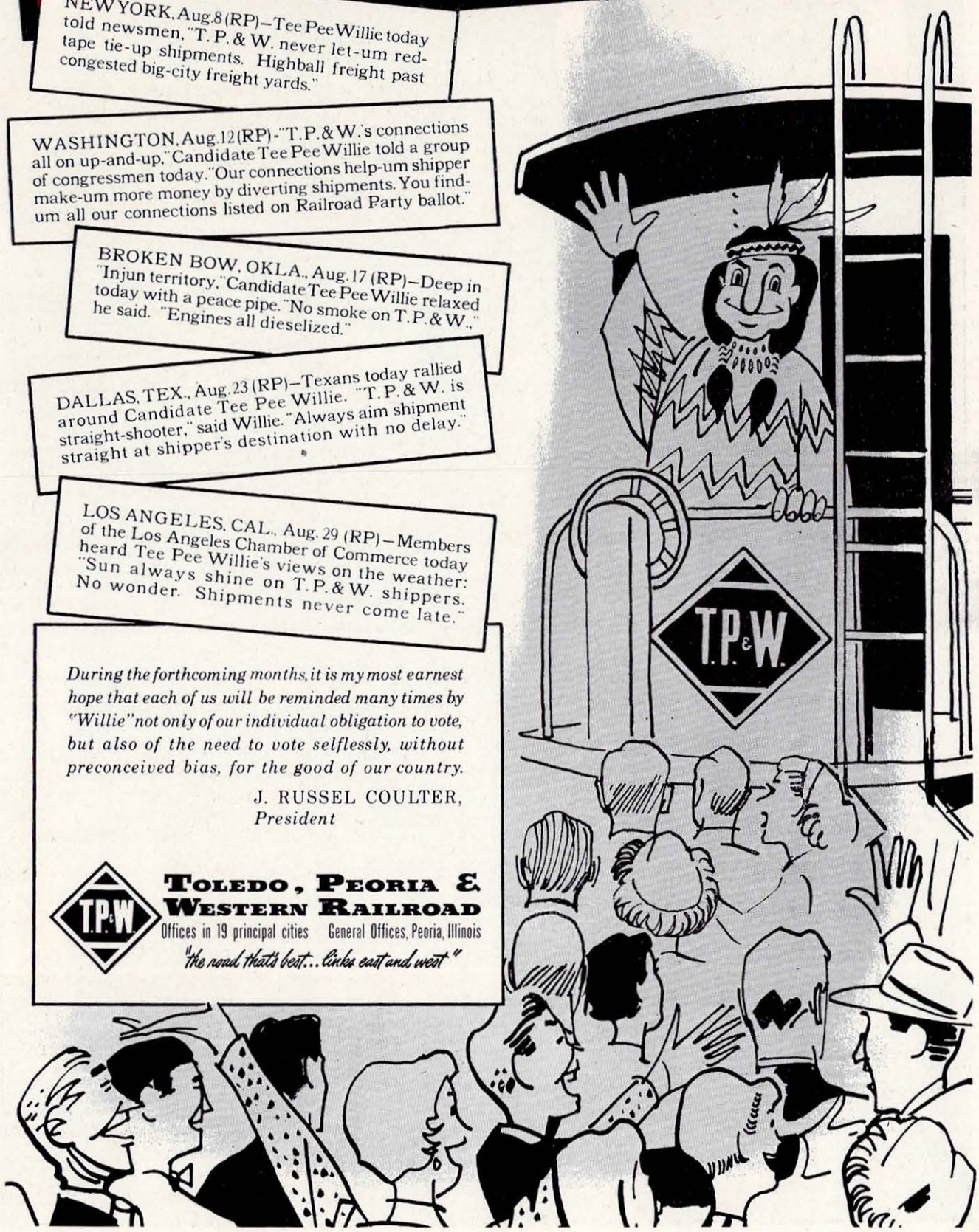
During the forthcoming months, it is my most earnest hope that each of us will be reminded many times by "Willie" not only of our individual obligation to vote, but also of the need to vote selflessly, without preconceived bias, for the good of our country.

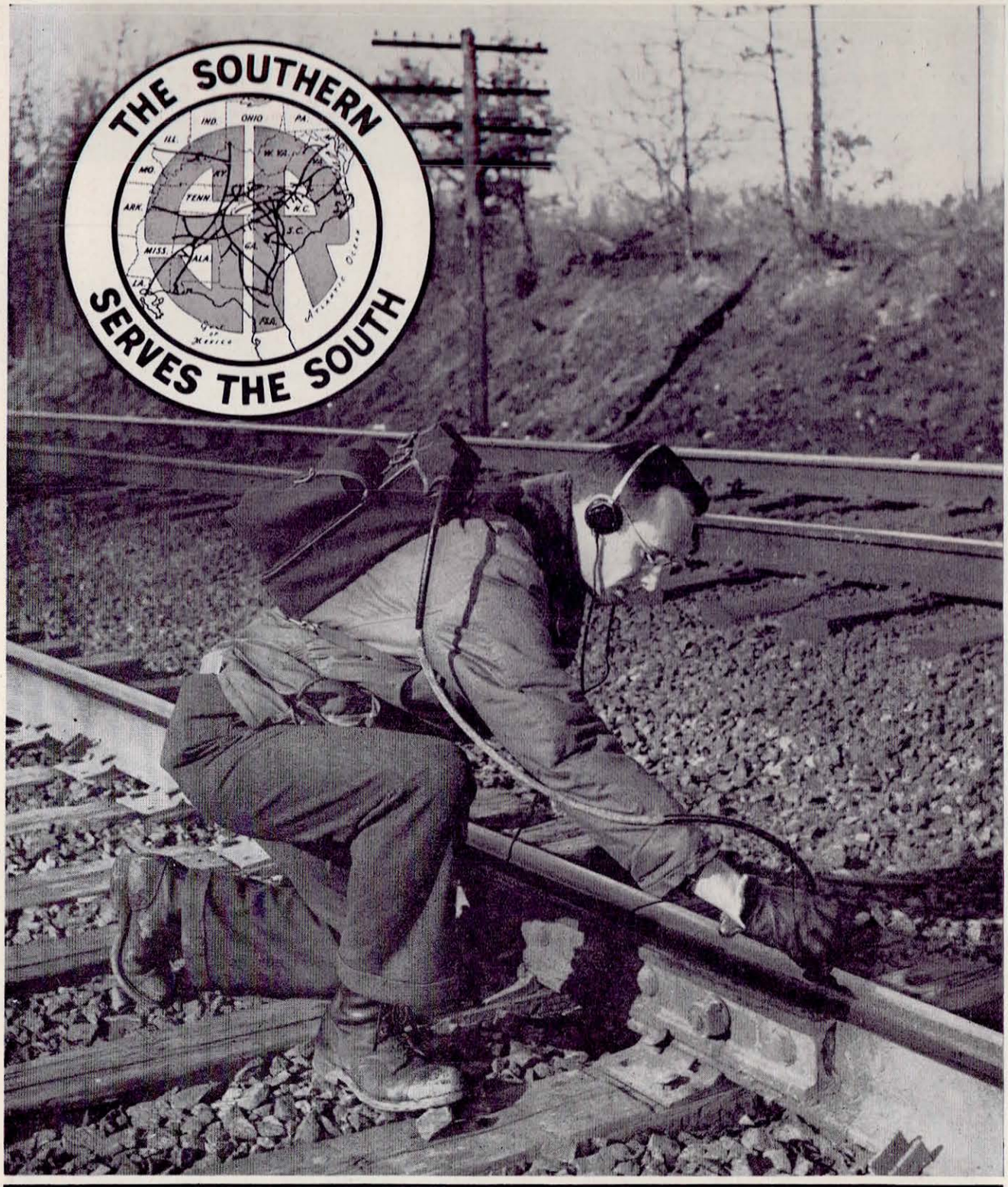
J. RUSSEL COULTER,
President

TOLEDO, PEORIA & WESTERN RAILROAD

Offices in 19 principal cities General Offices, Peoria, Illinois

"the road that's best... links east and west"

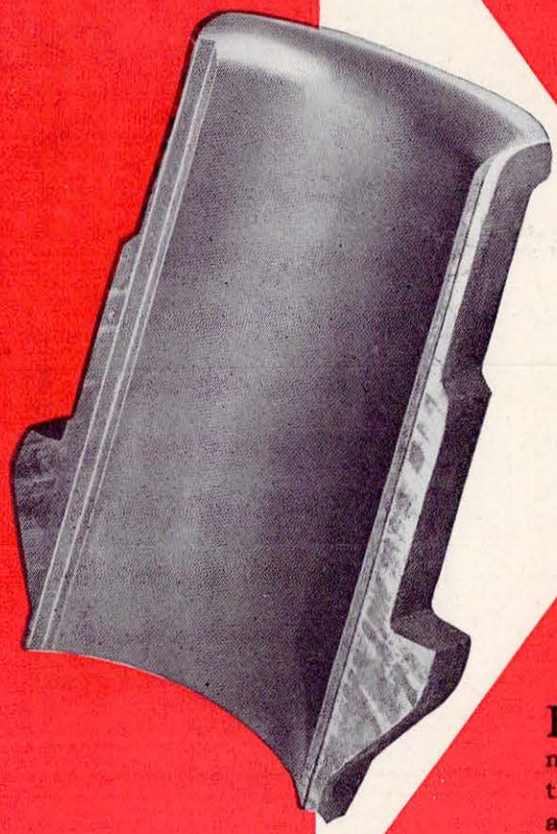


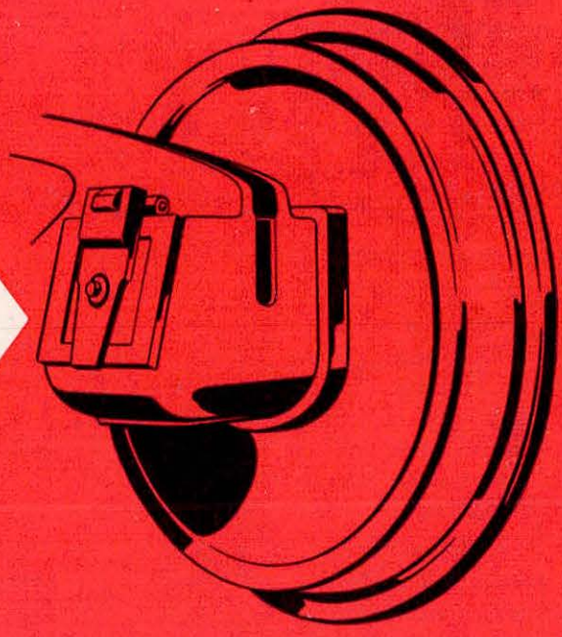


ANYTHING WRONG, DOC? Most of the time the answer is "no." But if a hidden flaw does exist, where joint bars or other track fixtures interfere with close inspection by visual or detector car methods, this electronic rail "stethoscope" will tell about it through a change in the pitch of the ultra-sonic waves. This is just one more example of how we are using modern science to give ever-improved, safer service on the **SOUTHERN RAILWAY SYSTEM.**

built to last...

For original equipment or replacement solid type Journal Bearings have the longest service life





RAILROADS want long service life in their equipment plus operating efficiency. This is one reason why they choose solid type journal bearings for freight cars above all others.

Thousands of freight cars using N-B-M Journal Bearings carry the products of American industry billions of ton miles each year. This is your assurance of bearings that give better service under today's conditions of high speed, heavy loads, and heavy impacts. N-B-M Journal Bearings are service-proved.

N-B-M—serving American railroads since 1874 with a complete line of Journal Bearings, Engine Bearings, and Bronze Parts.

AMERICAN Brake Shoe COMPANY

NATIONAL BEARING DIVISION

4937 Manchester Avenue • St. Louis 10, Mo.

PLANTS IN: ST. LOUIS, MO. • MEADVILLE, PA. • NILES, OHIO • PORTSMOUTH, VA. • ST. PAUL, MINN. • CHICAGO, ILL.

Freight Operating Statistics of Large Railways — Selected Items

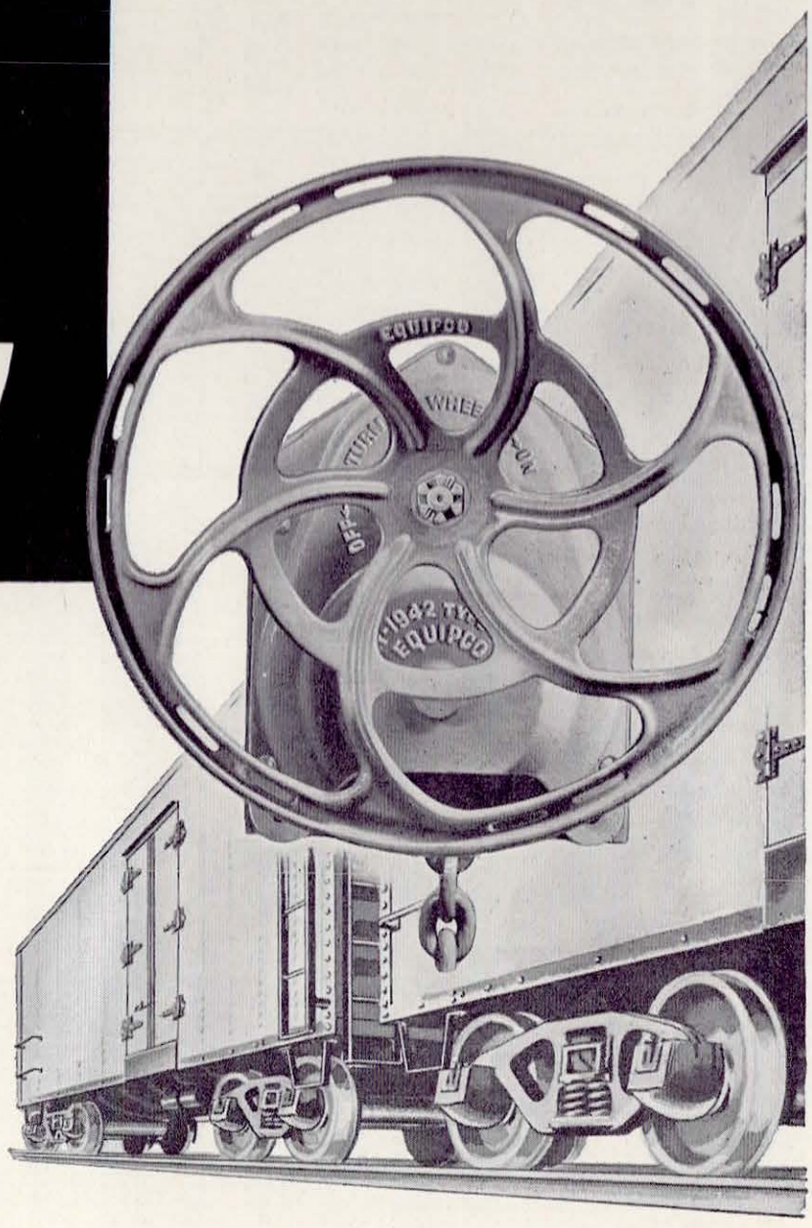
Region	Road and Year	Miles of road operated	Locomotive-Miles: Train-miles	Locomotive-Miles: Principal and helper	Locomotive-Miles: Light	Car-Miles: Loaded (thousands)	Car-Miles: Per cent loaded	Ton-miles (thousands): Gross excl. locos & tenders	Ton-miles (thousands): Net rev. and non-rev.	Road-locos. on line: Serviceable: Unstored	Road-locos. on line: Serviceable: Stored	Road-locos. on line: B.O.	Road-locos. on line: Per cent B.O.
New Eng. Region	Boston & Maine	1952	1,690	265,938	270,453	9,484	9,407	69.2	593,604	250,765	81	13	10	9.6
		1951	1,691	276,244	283,675	12,371	11,056	72.1	679,192	291,983	86	4	12	11.8
	N. Y., N. H. & Htfd	1952	1,764	299,157	299,487	19,186	11,820	68.9	735,237	313,731	103	..	3	2.8
		1951	1,766	318,730	318,963	19,730	12,052	68.0	809,478	373,674	97	..	9	8.5
Great Lakes Region	Delaware & Hudson	1952	793	241,563	271,566	16,672	10,527	68.3	747,449	393,098	82	30	16	12.5
		1951	793	259,715	303,189	23,353	11,583	75.2	797,916	441,665	139	15	13	7.8
	Del., Lack. & Western	1952	962	290,203	308,951	26,466	13,169	68.9	885,619	411,921	76	4	1	1.2
		1951	964	294,755	318,852	31,902	13,485	70.6	890,342	416,034	84	7	16	15.0
	Erie	1952	2,242	568,700	574,494	24,928	32,052	68.6	2,005,725	839,721	165	17	2	1.1
		1951	2,245	633,236	643,058	33,640	34,923	68.5	2,190,807	917,659	179	31	26	11.0
	Grand Trunk Western	1952	952	261,486	264,974	2,114	8,563	61.6	591,224	243,614	63	1	11	14.7
		1951	952	271,201	274,620	2,615	9,118	65.8	606,202	260,854	52	..	16	23.5
	Lehigh Valley	1952	1,207	250,804	255,192	11,619	12,085	67.6	829,207	386,359	36	..	..	..
		1951	1,211	252,912	264,572	19,572	12,885	70.6	865,094	418,729	39	5	7	13.7
	New York Central	1952	10,653	2,787,654	2,876,505	122,674	104,326	61.1	7,480,007	3,317,648	841	125	237	19.7
		1951	10,675	3,060,467	3,259,473	176,294	114,432	63.3	8,133,898	3,717,198	980	48	391	27.6
	New York, Chic. & St. L.	1952	2,161	757,596	780,802	10,170	29,582	65.7	2,075,355	911,967	197	13	39	15.7
		1951	2,161	816,650	845,371	12,810	32,326	68.3	2,234,606	1,035,824	203	12	34	13.7
	Pitts. & Lake Erie	1952	221	80,127	81,543	....	3,696	68.9	309,886	193,460	31	3	14	29.2
		1951	221	95,784	96,960	17	4,007	70.1	331,051	204,979	30	..	15	33.3
	Wabash	1952	2,381	523,429	527,776	7,728	22,041	68.6	1,397,915	576,441	100	29	40	23.7
		1951	2,381	545,693	550,467	8,634	23,171	70.4	1,479,505	632,344	123	11	77	36.5
Central Eastern Region	Baltimore & Ohio	1952	6,082	1,564,599	1,755,803	172,826	63,427	63.4	4,894,668	2,401,550	545	62	174	22.3
		1951	6,083	1,794,498	2,066,636	209,445	71,104	64.4	5,411,069	2,721,844	620	108	176	19.5
	Central of New Jersey	1952	411	71,646	72,253	3,056	2,777	68.0	203,907	106,742	31	..	3	8.8
		1951	410	76,229	76,521	4,014	2,936	66.3	218,357	111,848	41	..	5	10.9
	Central of Pennsylvania	1952	207	64,943	70,991	10,071	2,660	67.5	196,064	101,206	36	3	7	15.2
		1951	210	72,753	78,631	10,819	2,780	69.5	202,192	109,504	34	..	6	15.0
	Chicago & Eastern Ill.	1952	868	118,611	118,611	2,924	4,813	68.0	316,115	150,654	27	..	1	3.6
		1951	886	131,356	131,356	3,862	5,117	68.6	327,573	152,474	25	..	2	7.4
	Elgin, Joliet & Eastern	1952	236	85,925	86,609	140	3,007	67.1	234,401	128,976	41	..	1	2.4
		1951	238	99,120	100,095	556	3,932	65.1	311,033	169,450	43	..	..	..
	Pennsylvania System	1952	9,961	3,113,188	3,369,422	340,923	134,628	63.2	9,780,818	4,699,903	1,089	90	332	22.0
		1951	10,045	3,339,869	3,622,620	379,952	143,380	67.1	10,218,500	5,084,349	1,232	74	293	18.3
	Reading	1952	1,320	358,042	367,343	23,902	13,666	63.1	1,087,698	575,370	179	16	20	9.3
		1951	1,311	371,882	386,046	31,162	14,158	67.0	1,079,928	584,542	171	30	29	12.6
	Western Maryland	1952	836	188,848	218,937	23,841	6,532	63.6	532,735	298,210	119	9	16	11.1
		1951	837	172,389	199,871	20,054	6,210	65.6	491,150	272,709	119	7	22	14.9
Pocahontas Region	Chesapeake & Ohio	1952	5,036	1,367,812	1,416,361	47,590	63,559	57.3	5,466,166	3,056,458	453	79	172	24.4
		1951	5,042	1,480,452	1,551,182	64,314	69,349	58.7	5,910,811	3,327,337	494	15	249	32.8
	Norfolk & Western	1952	2,113	684,859	722,030	49,360	32,085	58.1	2,858,805	1,538,548	232	28	17	6.1
		1951	2,113	776,013	820,161	57,348	36,896	58.6	3,283,760	1,795,172	245	20	21	7.3
Southern Region	Atlantic Coast Line	1952	5,461	960,946	961,040	12,405	30,235	58.1	2,154,348	927,445	277	21	42	12.4
		1951	5,434	988,166	990,463	17,065	30,038	62.2	2,055,289	909,999	364	20	108	22.0
	Central of Georgia	1952	1,754	242,235	245,782	3,575	8,019	67.7	544,116	252,986	88	3	6	6.2
		1951	1,765	293,993	296,440	4,314	8,185	71.9	537,080	255,445	123	3	5	3.8
	Gulf, Mobile & Ohio	1952	2,713	319,249	319,249	226	15,833	70.5	1,051,115	511,295	84	..	2	2.3
		1951	2,851	335,042	335,042	243	17,182	72.5	1,111,117	532,933	80	..	3	3.6
	Illinois Central	1952	6,539	1,519,155	1,526,223	52,556	52,549	62.2	3,805,454	1,729,949	541	35	78	11.9
		1951	6,539	1,549,894	1,556,551	53,598	54,624	64.1	3,894,905	1,795,146	578	14	68	10.3
	Louisville & Nashville	1952	4,756	1,043,460	1,095,143	26,635	35,457	61.3	2,650,696	1,270,260	251	75	59	15.3
		1951	4,769	1,145,825	1,230,014	33,813	37,356	63.9	2,748,519	1,350,772	334	13	83	19.3
	Nash., Chatt. & St. Louis	1952	1,032	211,030	214,947	3,931	6,900	71.8	451,604	217,273	48	9	6	9.5
		1951	1,049	213,057	217,325	3,855	6,717	72.7	428,143	202,166	74	..	4	5.1
	Seaboard Air Line	1952	4,135	811,146	814,312	4,707	29,344	61.4	2,141,214	910,322	196	44	14	5.5
		1951	4,136	823,225	845,057	6,939	28,670	63.8	2,002,349	868,947	225	39	62	19.0
	Southern	1952	6,264	1,140,841	1,141,008	11,303	41,088	68.7	2,646,265	1,201,338	322	50	63	14.5
		1951	6,302	1,274,752	1,282,806	14,006	43,341	70.1	2,753,233	1,257,968	382	17	184	31.6
Northwestern Region	Chicago & North Western	1952	7,889	857,559	870,273	21,291	32,584	64.8	2,308,125	1,026,396	288	8	119	28.7
		1951	7,910	924,737	938,365	23,825	34,506	68.3	2,405,337	1,104,192	310	18	147	30.9
	Chicago Great Western	1952	1,441	148,324	148,324	1,612	8,129	66.8	537,565	233,055	33	..	1	2.9
		1951	1,441	154,072	154,072	10,147	8,891	71.0	584,138	268,664	30	..	2	6.3
	Chic., Milw., St. P. & Pac.	1952	10,663	1,174,169	1,210,550	43,873	44,846	62.9	3,152,008	1,393,219	391	50	80	15.4
		1951	10,664	1,229,024	1,272,730	43,969	47,214	66.2	3,235,535	1,491,808	440	71	58	10.2
	Chic., St. P., Minn. & Omaha	1952	1,606	181,066	184,038	6,511	5,183	68.4	353,803	157,202	57	1	36	38.3
		1951	1,606	207,785	213,636	9,119	5,585	69.4	403,672	195,607	69	3	28	28.0
	Duluth, Missabe & Iron Range	1952	567	189,022	190,172	1,516	8,740	50.2	921,015	556,161	71	..	8	10.1
		1951	565	204,855	205,871	1,248	8,912	50.4	1,065,930	593,199	57	..	7	10.9
	Great Northern	1952	8,181	1,081,010	1,083,190	39,022	43,634	65.5	3,322,935	1,702,739	317	122	45	9.3
		1951	8,220	1,171,337	1,172,261	40,490	49,059	63.5	3,773,992	1,893,899	339	71	63	13.3
	Minneap., St. P. & S. Ste. M.	1952	4,173	415,525	419,073	3,166	13,847	65.5	946,025	450,927	111	3	10	8.1
		1951	4,179	435,283	443,089	4,669	14,928	66.6	1,028,044	503,037	116	..	15	11.5
	Northern Pacific	1952	6,588	753,826	774,384	31,649	32,755	71.8	2,215,302	1,071,167	318	26	67	16.3
		1951	6,591	870,158	916,901	42,623	35,636	68.0	2,495,800	1,196,302	343	8	63	15.2
Central Western Region	Atch., Top. & S. Fe (incl. G. C. & S. F. and P. & S. F.)	1952	13,072	2,612,610	2,751,828	113,514	107,420	61.2	7,593,271	2,825,495	619	35	124	15.9
		1951	13,096	2,747,516	2,900,702	98,499	113,334	64.9	7,721,568	3,022,111	629	63	182	20.8
	Chic., Burl. & Quincy	1952	8,773	1,115,651	1,121,173	36,283	45,719	64.3	3,155,447	1,407,951	328	55	107	21.8
		1951	8,788	1,130,844	1,138,002	43,987	47,722	66.5	3,269,638	1,511,882	323	55	137	26.6
	Chic., Rock I. & Pac.	1952	7,902	1,005,262	1,010,280	11,772	36,654	61.1	2,670,183	1,116,220	188	38	53	19.0
		1951	7,903	1,096,248	1,122,375	19,987	38,605	62.6	2,682,815	1,185,214	237	23	63	19.5
	Denver & R. G. Wn.	1952	2,333	308,415	338,363	40,486	14,464	74.8	963,595	484,731	98	27	27	17.8
		1951	2,334	313,427	338,907	33,516	14,465	71.7	982,153	474,677	92	43	29	17.7
	Southern Pacific	1952	8,063	2,220,335	2,336,821	302,174	97,699	64.9	6,742,029	2,725,114	674	18	157	18.5
		1951	8,052	2,291,220	2,424,878	307,195	102,171	66.4	6,886,164	2,805,819	714	9	153	17.5
	Union Pacific	1952	9,843	2,143,674	2,225,574	137,079	96,061	68.9	6,424,359	2,867,709	505	116	164	20.9
		1951	9,712	2,399,376	2,497,952	177,891	105,201	67.4	7,069,665	3,109,814	577	63	151	19.1
	Western Pacific	1952	1,190	211,447	215,235	15,665	10,094	73.1	650,668	302,769	35	11	6	11.5
		1951	1,190	222,195	225,573	20,552	11,395	76.6	705,320	329,961	39	18	33	36.7
Southwestern Region	International-Gt. Northern*	1952	1,104	191,303	191,303	284	6,735	63.9	507,067	227,766	56	..	6	9.7
		1951	1,104	211,831	212,191	593	7,117	65.8	514,856	237,811	51	..	17	25.0
	Kansas City Southern	1952	886	149,207	149,215	364	7,545	64.0	536,992	244,068	26	7	6	15.4
		1951	886	178,518	178,518	523	9,481	69.3	642,217	306,190	30	12	24	36.4
	Mo.-Kans.-Texas Lines	1952	3,230	377,912	379,660	5,142	13,770	63.0	927,485	381,301	84	14	8	7.5
		1951	3,230	401,966	404,100	6,436	14,866	64.4	969,377	415,436	81	15	26	21.3
	Missouri Pacific*	1952	6,933	1,237,434	1,243,981	15,107	46,115	63.4	3,200,862	1,392,114	316	10	51	13.5
		1951	6,942	1,328,727	1,349,173	16,668	48,642	65.4	3,332,447	1,499,409	343	15	66	15.6
	Texas & Pacific	1952	1,832	345,446	345,446	6,881	13,953	63.6	982,740	382,071	63	12	22	22.7
		1951	1,844	358,471	358,471	6,277	14,209	62.2	1,014,337	390,814	94	5	..	..
	St. Louis-San Francisco	1952	4,567	643,989	643,989	6,221	22,929	61.1	1,620,499	695,353	187	15	22	9.8
		1951	4,570	692,953	697,921	7,029	24,034	63.1	1,660,893	730,564	200	73	93	25.4
	St. Louis Southw. Lines	1952	1,562	347,509	352,951	4,875	15,048	70.7	934,184	417,593	57	32	13	12.7
		1951	1,562	376,337	380,336	5,114	15,628	74.1	951,914	425,519	76	10	16	15.7
	Texas & New Orleans	1952	4,290	757,635	758,007	13,541	28,175	65.9	1,965,967	878,714	219	..	26	10.6
		1951	4,291	840,521	840,633	21,900	28,417	67.3	1,937,591	861,636	224	..	47	17.3

For the Month of May 1952 Compared with May 1951

	Region, Road and Year		Freight cars on line: Home	Foreign	Total	Per Cent B.O.	G.t.m.per train-hr. excl.locos and tenders	G.t.m.per train-mi. excl.locos and tenders	Net ton-mi. per train-mile	Net ton-mi. per l'd car-mile	Net ton-mi. per car-day	Car-miles per car-day	Net daily ton-mi. per road-mi.	Train-miles per train-hour	Miles per loco. per day
New Eng. Region	Boston & Maine	1952	1,605	7,326	8,931	3.0	38,468	2,234	944	26.7	884	48.0	4,787	17.2	94.0
		1951	1,329	9,571	10,900	1.5	39,453	2,462	1,058	26.4	895	47.0	5,570	16.0	102.2
	N. Y., N. H. & Htfd	1952	1,986	12,598	14,584	4.3	37,643	2,461	1,050	26.5	665	36.3	5,737	15.3	114.2
		1951	1,404	17,773	19,177	1.6	38,508	2,541	1,173	31.0	645	30.6	6,826	15.2	121.4
Great Lakes Region	Delaware & Hudson	1952	4,827	4,822	9,649	5.2	60,002	3,110	1,636	37.3	1,274	49.9	15,991	19.4	72.2
		1951	1,845	6,645	8,490	5.2	58,434	3,087	1,708	38.1	1,652	57.6	17,966	19.0	57.0
	Del., Lack. & Western	1952	6,322	10,765	17,087	5.0	50,714	3,095	1,439	31.3	801	37.1	13,813	16.6	149.2
		1951	4,763	10,945	15,708	7.4	47,001	3,074	1,436	30.9	847	38.9	13,922	15.6	117.5
	Erie	1952	8,717	17,305	26,022	4.0	62,272	3,559	1,490	26.2	1,016	56.5	12,082	17.7	118.0
		1951	6,276	21,938	28,214	3.9	59,606	3,484	1,459	26.3	1,059	58.8	13,186	17.2	102.1
	Grand Trunk Western	1952	3,650	8,507	12,157	5.3	47,830	2,278	939	28.4	657	37.5	8,255	21.2	128.0
		1951	3,822	9,396	13,218	5.8	46,226	2,253	970	28.6	636	33.8	8,839	20.7	136.8
	Lehigh Valley	1952	2,224	12,500	14,724	6.1	66,866	3,351	1,561	32.0	839	38.8	10,326	20.2	238.4
		1951	3,141	12,161	15,302	6.4	66,316	3,478	1,683	32.5	884	38.5	11,154	19.4	182.1
	New York Central	1952	64,669	84,108	148,777	8.9	47,123	2,728	1,210	31.8	721	37.1	10,046	17.6	86.9
		1951	54,542	127,525	182,067	4.7	45,295	2,693	1,231	32.5	672	32.7	11,233	17.0	87.1
	New York, Chic. & St. L.	1952	7,358	17,778	25,136	6.5	50,163	2,784	1,223	30.8	1,178	58.2	13,613	18.3	111.8
		1951	5,335	20,539	25,874	3.3	50,411	2,791	1,294	32.0	1,328	60.7	15,462	18.4	116.8
	Pitts. & Lake Erie	1952	3,835	9,550	13,385	5.3	58,042	3,876	2,420	52.3	505	14.0	28,238	15.0	60.2
		1951	3,551	12,617	16,168	9.6	50,790	3,469	2,148	51.2	447	12.5	29,920	14.7	72.5
	Wabash	1952	7,880	11,390	19,270	6.1	61,140	2,689	1,109	26.2	963	53.7	7,810	22.9	107.8
		1951	6,279	12,661	18,940	3.3	58,052	2,734	1,169	27.3	1,060	55.2	8,567	21.4	90.0
Central Eastern Region	Baltimore & Ohio	1952	54,037	42,971	97,008	7.0	45,586	3,164	1,552	37.9	802	33.4	12,737	14.6	83.8
		1951	45,379	58,515	103,894	5.3	42,299	3,055	1,537	38.3	846	34.3	14,434	14.0	81.9
	Central of New Jersey	1952	537	8,653	9,190	2.8	35,431	2,969	1,554	38.4	368	14.1	8,378	12.4	113.0
		1951	330	9,185	9,515	2.6	37,962	2,997	1,576	39.1	390	15.0	9,036	13.3	85.3
	Central of Pennsylvania	1952	2,050	2,998	5,048	17.5	41,164	3,211	1,657	38.0	667	26.0	15,772	13.6	72.5
		1951	1,410	3,040	4,450	19.5	43,642	2,999	1,624	39.4	786	28.7	16,821	15.7	84.7
	Chicago & Eastern Ill.	1952	2,597	2,689	5,286	5.8	45,954	2,668	1,271	31.3	845	39.4	5,599	17.2	153.1
		1951	1,599	3,010	4,609	9.2	42,708	2,509	1,168	29.8	1,022	50.0	5,551	17.1	167.1
	Elgin, Joliet & Eastern	1952	6,781	11,180	17,961	4.0	21,995	2,806	1,544	42.9	230	8.0	17,629	8.1	91.9
		1951	5,865	14,617	20,482	3.1	20,364	3,241	1,766	43.1	251	9.0	22,967	6.5	112.9
	Pennsylvania System	1952	93,589	120,300	213,889	9.3	51,538	3,230	1,552	34.9	706	32.0	15,220	16.4	86.5
		1951	92,459	118,339	210,798	9.3	47,009	3,162	1,573	35.5	787	33.1	16,328	15.4	88.1
	Reading	1952	14,115	15,970	30,085	3.5	40,126	3,045	1,611	42.1	594	22.4	14,061	13.2	68.9
		1951	10,447	19,794	30,241	4.0	37,461	2,904	1,572	41.3	597	21.6	14,383	12.9	68.3
	Western Maryland	1952	6,024	2,630	8,654	2.9	42,338	2,857	1,599	45.7	1,116	38.5	11,507	15.0	57.2
		1951	5,233	3,173	8,406	2.2	41,946	2,901	1,611	43.9	1,063	36.9	10,510	14.7	50.4
Pocahontas Region	Chesapeake & Ohio	1952	47,957	27,411	75,368	4.4	71,762	4,024	2,250	48.1	1,275	46.2	19,578	18.0	71.0
		1951	52,712	25,968	78,680	4.6	67,054	4,036	2,272	48.0	1,384	49.1	21,288	16.8	74.4
	Norfolk & Western	1952	34,952	7,111	42,063	2.8	71,069	4,243	2,284	48.0	1,180	42.3	23,488	17.0	96.2
		1951	31,017	7,783	38,800	2.7	70,983	4,295	2,348	48.7	1,507	52.8	27,406	16.8	108.7
Southern Region	Atlantic Coast Line	1952	15,355	19,772	35,127	2.6	37,836	2,252	969	30.7	865	48.6	5,478	16.9	102.4
		1951	11,141	19,271	30,412	2.1	33,488	2,096	928	30.3	945	50.1	5,402	16.1	74.3
	Central of Georgia	1952	2,838	5,490	8,328	5.1	40,073	2,259	1,050	31.5	954	44.7	4,653	17.8	90.0
		1951	1,756	5,232	6,988	2.7	32,970	1,833	872	31.2	1,025	45.6	4,669	18.0	82.7
	Gulf, Mobile & Ohio	1952	4,357	9,118	13,475	4.2	64,577	3,300	1,605	32.3	1,179	51.8	6,068	19.6	128.8
		1951	2,971	10,265	13,236	3.4	64,826	3,322	1,593	31.0	1,270	56.5	6,030	19.5	139.6
	Illinois Central	1952	27,579	27,049	54,628	2.6	43,649	2,547	1,158	32.9	1,015	49.6	8,534	17.4	83.2
		1951	22,214	30,308	52,522	1.9	46,109	2,541	1,171	32.9	1,087	51.6	8,856	18.3	84.4
	Louisville & Nashville	1952	34,218	15,335	49,553	5.6	42,003	2,544	1,219	35.8	841	38.3	8,616	16.5	100.9
		1951	31,010	17,189	48,199	8.7	38,464	2,403	1,181	36.2	909	39.4	9,137	16.0	98.6
	Nash., Chatt. & St. Louis	1952	1,885	4,445	6,330	4.7	41,746	2,150	1,035	31.5	1,101	48.7	6,791	19.5	121.4
		1951	1,131	4,550	5,681	3.1	39,420	2,012	950	30.1	1,096	50.1	6,217	19.6	99.3
	Seaboard Air Line	1952	10,549	15,985	26,534	1.4	50,463	2,692	1,144	31.0	1,103	57.9	7,102	19.1	112.4
		1951	9,127	16,262	25,389	1.9	45,000	2,483	1,078	30.3	1,128	58.4	6,777	18.5	95.9
	Southern	1952	13,961	28,171	42,132	3.3	40,926	2,332	1,058	29.2	920	45.9	6,187	17.6	89.9
		1951	12,624	27,987	40,611	4.5	37,071	2,177	994	29.0	978	48.1	6,439	17.2	77.3
Northwestern Region	Chicago & North Western	1952	25,154	29,589	54,743	3.4	43,687	2,813	1,251	31.5	613	30.1	4,197	16.2	75.4
		1951	17,184	29,644	46,828	4.3	41,947	2,729	1,253	32.0	737	33.7	4,503	16.1	71.4
	Chicago Great Western	1952	1,649	5,378	7,027	2.7	62,602	3,635	1,576	28.7	1,080	56.4	5,217	17.3	147.8
		1951	1,099	5,611	6,710	2.7	63,266	3,827	1,760	30.2	1,330	62.0	6,014	16.7	165.5
	Chic., Milw., St. P. & Pac.	1952	35,763	29,772	65,535	3.4	46,528	2,702	1,194	31.1	688	35.2	4,215	17.3	84.0
		1951	29,754	36,261	66,015	3.1	44,112	2,649	1,222	31.6	728	34.8	4,513	16.8	80.5
	Chic., St. P., Minn. & Omaha	1952	954	7,270	8,224	3.9	30,811	2,007	892	30.3	588	28.3	3,158	15.8	69.1
		1951	994	7,921	8,915	3.6	28,601	2,044	991	35.0	653	26.9	3,929	14.7	80.0
	Duluth, Missabe & Iron Range	1952	14,693	1,860	16,553	2.3	85,836	5,145	3,107	63.6	1,102	34.5	31,641	17.6	87.7
		1951	13,368	1,726	15,094	2.3	86,816	5,417	3,015	66.6	1,269	37.9	33,868	16.7	111.0
	Great Northern	1952	25,620	17,511	43,131	4.5	48,733	3,110	1,594	39.0	1,301	50.9	6,714	15.9	80.3
		1951	22,566	23,051	45,617	3.1	49,338	3,264	1,638	38.6	1,336	54.5	7,432	15.3	87.9
	Minneap., St. P. & S. Ste. M.	1952	7,826	7,787	15,613	7.8	44,081	2,290	1,091	32.6	967	45.4	3,486	19.4	123.0
		1951	6,526	8,853	15,379	6.4	43,510	2,379	1,164	33.7	1,030	45.9	3,883	18.4	121.7
	Northern Pacific	1952	21,224	13,879	35,103	6.0	52,270	2,955	1,429	32.7	990	42.1	5,245	17.8	68.6
		1951	18,090	19,047	37,137	4.8	48,182	2,887	1,384	33.6	1,045	45.7	5,855	16.8	82.9
Central Western Region	Atch., Top. & S. Fe (incl. G. C. & S. F. and P. & S. F.)	1952	58,475	35,518	93,993	3.6	62,517	2,899	1,086	26.3	1,009	62.6	6,973	21.7	125.1
		1951	51,596	35,735	87,331	4.1	59,518	2,825	1,106	26.7	1,146	66.2	7,444	21.2	118.2
	Chic., Burl. & Quincy	1952	20,252	24,583	44,835	3.8	56,325	2,835	2,265	30.8	1,027	51.8	5,177	19.9	79.9
		1951	17,405	23,679	41,084	4.3	54,965	2,904	1,343	31.7	1,168	55.4	5,550	19.0	77.0
	Chic., Rock I. & Pac.	1952	13,251	24,556	37,807	2.9	50,211	2,669	1,116	30.5	973	52.3	4,557	18.9	124.7
		1951	9,116	25,896	35,012	4.0	45,975	2,457	1,086	30.7	1,104	57.4	4,838	18.8	117.4
	Denver & R. G. Wn.	1952	7,762	4,907	12,669	3.4	51,692	3,141	1,580	33.5	1,138	45.4	6,702	16.5	86.6
		1951	7,922	4,837	12,759	4.7	55,731	3,147	1,521	32.8	1,166	49.6	6,560	17.8	75.0
	Southern Pacific	1952	28,492	51,356	79,848	2.6	54,537	3,079	1,244	27.9	1,097	60.6	10,901	18.0	108.7
		1951	25,685	56,051	81,736	2.7	51,471	3,044	1,240	27.5	1,169	64.1	11,241	17.1	107.3
	Union Pacific	1952	33,861	29,244	63,105	2.7	70,072	3,028	1,352	29.9	1,456	70.8	9,398	23.4	99.8
		1951	31,936	34,739	66,675	2.6	65,470	2,984	1,312	29.6	1,495	75.0	10,329	22.2	112.5
	Western Pacific	1952	2,525	3,314	5,839	7.6	71,158	3,100	1,442	30.0	1,732	79.0	8,207	23.1	143.8
		1951	1,624	4,346	5,970	7.5	69,778	3,193	1,494	29.0	1,745	78.6	8,944	22.0	89.0
Southwestern Region	International-Gt. Northern*	1952	1,006	7,826	8,832	2.4	53,703	2,670	1,199	33.8	809	37.4	6,655	20.3	106.2
		1951	788	7,135	7,923	2.6	49,339	2,444	1,129	33.4	954	43.4	6,949	20.3	105.5
	Kansas City Southern	1952	1,277	5,635	6,912	6.0	68,801	3,629	1,649	32.3	1,107	53.4	8,886	19.1	138.8
		1951	1,058	5,898	6,956	4.3	71,660	3,618	1,725	32.3	1,428	63.8	11,148	19.9	98.2
	Mo.-Kans.-Texas Lines	1952	5,008	6,718	11,726	7.4	51,398	2,457	1,010	27.7	1,096	62.8	3,808	20.9	120.8
		1951	3,218	6,475	9,693	5.3	48,958	2,416	1,036	27.9	1,380	76.7	4,149	20.3	107.3
	Missouri Pacific*	1952	22,776	15,391	38,167	2.8	55,616	2,603	1,132	30.2	1,200	62.7	6,477	21.5	114.4
		1951	18,037	18,085	36,122	2.4	51,674	2,528	1,138	30.8	1,396	69.3	6,967	20.6	110.8
	Texas & Pacific	1952	2,471	6,990	9,461	5.3	63,546	2,847	1,107	27.4	1,316	75.6	6,728	22.3	122.1
		1951	1,988	8,406	10,394	5.4	60,815	2,832	1,091	27.5	1,232	72.0	6,837	21.5	126.2
	St. Louis-San Francisco	1952	13,334	11,854	25,188	2.7	46,583	2,523	1,083	30.3	917	49.5	4,911	18.5	92.4
		1951	10,484	13,013	23,497	3.1	41,928	2,404	1,058	30.4	1,047	54.5	5,157	17.5	68.9
	St. Louis Southw. Lines	1952	2,411	4,990	7,401	2.5	55,244	2,690	1,203	27.8	1,814	92.5	8,624	20.6	123.7
		1951	1,554	5,293	6,847	2.3	49,553	2,536	1,134	27.2	1,984	98.4	8,788	19.6	131.0
	Texas & New Orleans	1952	5,273	17,931	23,204	2.8	49,785	2,618	1,170	31.2	1,227	59.7	6,607	19.2	102.5
		1951	3,263	16,568	19,831	2.5	45,364	2,330	1,036	30.3	1,371	67.2	6,477	19.7	107.8

*Report of trustee or trustees.
Compiled by the Bureau of Transport Economics and Statistics, Interstate Commerce Commission. Subject to revision

NO CAR CREEP!



Equipco

Non-Spin Wheel HAND BRAKE

A.A.R. Certified

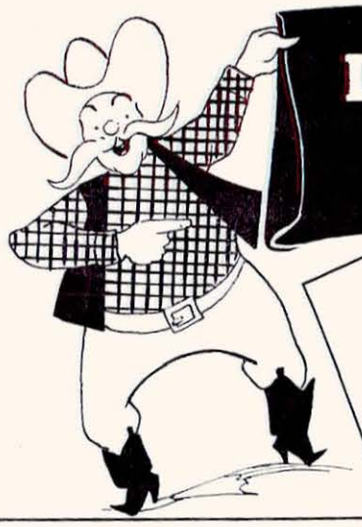
When you anchor a car with an Equipco Non-Spin Wheel Hand Brake, that car *remains* firmly anchored, for Equipco Brakes won't loosen-up under car impacts or ground vibration. There's no creeping—no rolling—no hazard to safety of trainmen, equipment, or lading. The Equipco is the *holdtight* brake that stays set until purposely released. *Write for descriptive literature.*

UNARCO

UNION ASBESTOS & RUBBER COMPANY

Equipco Hand Brake Department

332 SOUTH MICHIGAN AVENUE • CHICAGO 4, ILLINOIS



Desire and Ability to Serve...

The Rio Grande freight and passenger representatives listed below are on our payroll, but they're working for you – as added members of your traffic staff . . . as friendly, efficient counselors on transportation and distribution . . . as field men ready and able to assist you with any travel or shipping problem.

ALAMOSA, COLO.—Rio Grande Freight Depot—Phone 210
R. W. CLARK, District Freight & Passenger Agent.

ATLANTA 3, GA.—1521 Healey Bldg.—
57 Forsyth St. N. W.—Lamar 4831
R. E. KNIGHT, General Agent.

BOSTON 16, MASS.—411 Little Bldg.—
80 Boylston St.—Liberty 2-9891
C. O. TOBIAS, General Agent.

CHICAGO 3, ILL.—Suite 2321 Bankers Building—
105 West Adams St.—Randolph 6-7445
G. C. CLEGG, Eastern Traffic Manager.
J. B. WILLIAMS, Assistant Traffic Manager.
C. J. DOMBROW, General Passenger Agent.
D. J. LEWIS, Commercial Agent.
W. H. MESTER, City Passenger Agent.
E. J. CERNY, City Ticket Agent.
J. A. BURKE, Perishable Freight Agent.
B. F. GALLAGHER, Traveling Freight & Passenger Agent.
M. L. COLBY, Traveling Freight & Passenger Agent.
R. W. BAILEY, Traveling Freight & Passenger Agent.
S. E. DAVIS, City Freight Agent.
W. R. KINDER, City Freight Agent.
W. P. MENARD, City Freight Agent.

CINCINNATI 2, OHIO—1431 Enquirer Bldg.—
617 Vine St.—Parkway 3212
A. C. DICK, General Agent.
E. H. NELSON, Traveling Freight & Passenger Agent.

CLEVELAND 13, OHIO—509 Terminal Tower Building—
50 Public Square—Cherry 1-7386
M. M. DODDS, General Agent.
A. S. EATON, District Freight & Passenger Agent.

COLORADO SPRINGS, COLO.—
Suite 317 Exchange National Bank Bldg.—
6 South Tejon St.—Main 2884
E. D. MORRISON, General Agent.
H. L. JOHNSON, District Freight & Passenger Agent.

CRAIG, COLO.—Rio Grande Freight Depot—Phone 340
B. F. MOORE, District Freight & Passenger Agent.

DALLAS 1, TEXAS—607 Great National Life Building—
1604 Main St.—Phone Randolph 6322
J. B. LATIMER, General Agent.
T. J. BACON, District Freight & Passenger Agent.

DENVER 2, COLO.—
Rio Grande Bldg.—1531 Stout St.—Acoma 5533
City Ticket Office—Room 101—Main Floor
B. E. GREGORY, General Agent, Passenger Department.
D. G. FRAZIER, City Ticket Agent.
H. M. COX, City Passenger Agent.
C. L. RAHNE, City Passenger Agent.
T. D. JOHNSON, Depot Passenger Agent.
Freight Department—Room 100—Main Floor
E. K. WEST, General Agent, Freight Department.
C. M. WILDT, Commercial Agent.
A. L. BURSON, City Freight Agent.
A. D. COX, City Freight Agent.
H. C. McVEAN, Traffic Representative.
D. J. IZETT, Livestock Agent.

DETROIT 2, MICH.—5-157 General Motors Bldg.—
3044 West Grand Blvd.—Trinity 5-3025
P. O. SPURGEON, General Agent.
W. A. SIEBERT, Traveling Freight & Passenger Agent.
J. H. KRESS, Traveling Freight & Passenger Agent.

EUGENE, ORE.—203 Ardel Offices
33 10th Avenue East—Phone 5-8535
J. T. HULL, Commercial Agent.

FRESNO 21, CAL.—207 T. W. Patterson Bldg.—
2014 Tulare St.—Phone 4-3290
M. E. PYEATT, General Agent.

GRAND JUNCTION, COLO.—
Rio Grande Freight Depot—Phone 3021
W. J. MOORE, General Agent.

KANSAS CITY 6, MO.—524 Railway Exchange Bldg.
705 Walnut St.—Victor 5520
W. D. FERNALD, General Agent.
J. W. SAMPLE, Traveling Freight & Passenger Agent.
J. D. KEY, Traveling Freight & Passenger Agent.

LOS ANGELES 14, CAL.—724 Pacific Mutual Bldg.
523 West 6th St.—Madison 9-2156
A. R. ANDERSON, General Agent
O. V. HOWARD, District Passenger Agent.
G. L. NICOLIN, Commercial Agent.
L. S. BRISTOL, City Freight Agent.
E. D. BURKE, City Freight Agent.
R. C. MILNES, City Freight Agent.

MINNEAPOLIS 2, MINN.—360 Rand Tower
527 Marquette Ave.—Atlantic 7888
C. W. CAMPBELL, General Agent.

NEW YORK 36, N. Y.—500 Fifth Ave., Room 220.
Chickering 4-7515
V. A. FARRELL, Assistant Traffic Manager.
W. C. RUBIEN, District Passenger Agent.
T. V. SIMMONS, City Passenger Agent.
G. L. KENNY, Commercial Agent.
C. J. DOBOL, Perishable Freight Agent.
J. W. WESTLAKE, Traveling Freight & Passenger Agent.
J. J. O'DONNELL, Traveling Freight & Passenger Agent.
E. K. YAEGER, City Freight Agent.
J. R. MELANSON, City Freight Agent.

OAKLAND 12, CAL.—514 Central Bank Bldg.—
14th & Broadway—Glencourt 1-4925
R. E. DAVIS, General Agent.
W. B. WAGNER, City Freight Agent.
T. M. SAFFOLD, City Freight Agent.

OGDEN, UTAH—Rio Grande Freight Depot
130 24th Street—Phone 3-3325
R. B. WILLIAMS, General Agent.

OMAHA 2, NEB.—
313 Grain Exch. Bldg., 19th & Harney—Jackson 5100
S. L. LOCKWOOD, General Agent.
R. G. SCHWARTZ, Traveling Freight & Passenger Agent.
O. F. WAGNER, Traveling Freight & Passenger Agent.
E. W. DeJONG, Traveling Freight & Passenger Agent.

PITTSBURGH 22, PA.—1410 Oliver Bldg.
535 Smithfield St.—Atlantic 1-2766
U. E. LLOYD, General Agent.
F. E. HILL, Traveling Freight & Passenger Agent.
T. J. NOLAN, Traveling Freight & Passenger Agent.

PORTLAND 4, ORE.—417 Pacific Bldg.
520 S. W. Yamhill St.—Beacon 6104
W. M. KIRKPATRICK, Assistant Traffic Manager.
N. W. VORPAHL, Traveling Freight & Passenger Agent.

PROVO, UTAH—Rio Grande Freight Depot
6th South and 3rd West—Phone 240
S. D. BURNSIDE, District Freight & Passenger Agent.
C. F. FISCHER, Traffic Representative.

PUEBLO, COLO.—Suite 227 Central Bldg.—
120 N. Main St.—Phones 5510, 6842
J. M. JENSEN, Assistant Traffic Manager.
E. W. SANFORD, District Freight & Passenger Agent.
W. M. LEWIS, Traveling Freight & Passenger Agent.

RENO, NEV.—98 Sunnyside Drive—
Phone 2-1373
J. B. HUNTER, General Agent.

SACRAMENTO 14, CAL.—926 Forum Bldg.
1107 Ninth Street—Phone Hudson 4-4432
H. I. SCOFIELD, General Agent
H. H. HILL, Traveling Freight & Passenger Agent.

ST. LOUIS 3, MO.—
1218 Olive St., Suite 1210—Garfield 3670
H. A. ROBERTSON, Assistant Traffic Manager.
F. D. LUCAS, District Freight & Passenger Agent.
H. A. DEHNE, Commercial Agent.
J. M. SINCLAIR, Traveling Freight & Passenger Agent.

SALT LAKE CITY 1, UTAH—
24 South Main Street—Phone 4-6551
H. J. RIGGERT, Assistant Traffic Manager.
D. P. HEINER, General Agent, Passenger Dept.
R. S. LAWRENCE, General Agent, Freight Dept.
G. W. BUNNER, City Passenger Agent.
F. J. MANGAN, City Ticket Agent.
J. C. WALDIE, Depot Passenger Agent.
J. L. HILL, Traveling Freight Agent.
CECIL PEARSON, City Freight Agent.
B. H. OCKEY, City Freight Agent.
J. E. BERRY, City Freight Agent.

SAN FRANCISCO 5, CAL.—291 Monadnock Bldg.—
681 Market St.—Garfield 1-2688
C. J. HARBEKE, Western Traffic Manager.
J. K. SPEIGHT, General Agent.
R. G. DE GUIRE, District Passenger Agent.
M. E. CHASE, Commercial Agent.
M. W. WELDON, Commercial Agent.
C. R. LENNIG, Traveling Freight & Passenger Agent.
C. E. MILLS, Traveling Freight & Passenger Agent.
G. A. CRONIN, City Freight Agent.
J. McMILLEN, City Freight Agent.
L. L. TAYLOR, City Freight Agent.
R. A. HANSEN, City Freight Agent.

SEATTLE 1, WASH.—503 White-Henry-Stuart Bldg.
4th & University—Eliot 8482
C. B. LOWRY, Commercial Agent.

WASHINGTON 5, D. C.—535 Shoreham Bldg.
15th & H Sts. N. W.—Executive 0373
J. L. HENNING, General Agent.
P. P. MAGUIRE, Traveling Freight & Passenger Agent.

F. C. HOGUE, Vice President–Traffic
O. J. GRIMES, General Traffic Manager — W. M. CAREY, General Freight Traffic Manager
H. F. ENO, Passenger Traffic Manager
Rio Grande Building, 1531 Stout Street, Denver, Colorado

MAIN LINE Rio Grande THRU THE ROCKIES

TRAFFIC OFFICES IN 32 PRINCIPAL CITIES

DENVER & RIO GRANDE WESTERN RAILROAD
The Direct Central Transcontinental Route

F. C. HOGUE
Vice President—Traffic
Rio Grande Bldg., 1531 Stout Street
Denver, Colorado

THE MONON MYSTERY

or—Either way it spells "SERVICE"

From the Providence Evening Bulletin

The following news items and resulting letters from readers *prove* that Monon fame is spreading over more and more territory and that Monon cars really get around.

NG BULLETIN, PROVIDENCE, WEDNESDAY, FEBRUA

Union Station Visitors Not Unusual, but Name Is

Persons curious about two unusual-looking railroad cars which appeared on a siding at Union Station today should know that:

1. They belong on The Hoosier Line, out Indiana way.
2. They are here to fetch the scenery, props and orchestra instruments of the Ballet Theater here from Boston for a performance of the Community Concerts Association next Monday night.
3. It is not unusual for railroad cars of "foreign" designation to appear here. One can stand in Union Station and, by standing there long enough, see the railroad world go by.
4. What the backwards-spelling name "Monom" on the two cars means nobody around here seems to know.

CEY
Col
The
ed

So That's What It Means!

The Evening Bulletin reported on Wednesday that "nobody around here seems to know" the meaning of the name "Monom" on two railroad cars on a Union Station siding.

Mrs. F. S. Howard of 5 Wadsworth Street, Esmond, knows.

She says, first, that the name isn't "Monom," it's "Monon," and it's the name of a town (population 1436, altitude 675 feet above sea level) in White County, Indiana, on the Chicago, Indianapolis and Louisville Railroad.

"We lived there and heard the whistles change from sharp steam to the dull horn of the diesels," she reports.

At Monon, Mrs. Howard says, two main lines of the C., I. & L. cross, one from Chicago to Indianapolis, the other from a junction near Michigan City, Ind., to Louisville, Ky.

"The C., I. & L.," she continues, "carries grain, steel and machinery out of Chicago and brings coal, fine furniture, oil and Kentucky whiskey back north out of Louisville."

And about all of the Indiana limestone is moved part way by the C., I. & L.

Mrs. Howard contributes the initials of a lot of other Indiana railroads for good measure, among them the C., A. & S., whose president, she says, is also a fireman, and whose board chairman runs the engine and has the title of engineer.

Strange Railroad Cars

I was rather interested in your article about the Monon freight cars that you saw at Union Station recently.

You may be interested to know that the word Monon is the familiar name given to the Chicago, Indianapolis and Louisville Railway Co. The word Monon is from the town of Monon, Indiana, which is quite a division point on the C. I. & L. Although this town has only about 1500 people, it is quite an active place as far as this line is concerned.

I am sure that your local station agent will be glad to tell you more, but thought the above facts might enlighten you some if you're still wondering.

L. GORDON EATON

Peace Dale.

This letter is in reference to the article in the Feb. 20 Bulletin about the two railroad cars in Union Station. The name is not Monom but Monon, the nickname of the Chicago, Indianapolis and Louisville Railroad. The railroad is shaped in a rough X, and the X marks the spot where the city of Monon, Indiana, stands.

This railroad, under the leadership of John W. Barriger, has become one of the most modern roads in the country after many years of almost complete abandonment of service. Private capital was used in the rehabilitation of the road. This contrasts with other forms of transportation that use roads, airports and waterways paid for and maintained out of the taxpayers' pockets.

BENJAMIN PERRY JR.

Providence.

A Tip from the Middle West

In your edition of Feb. 20, 1952, you printed an article about two funny named railroad cars in the Providence depot. I'm afraid that either the name on them wasn't too clear, or you folks can't read, because the name is not the backwards spelling name of Monom which you stated. However, it is the one way spelling name of Monon, also known officially as the Chicago, Indianapolis, and Louisville Railroad.

You were right about its being a Hoosier road. It is an X-shaped road with Chicago, Michigan City, Ind., Indianapolis and Louisville being at the ends of the X. The pivot of the X is at the city of Monon, Ind. Thus the one way spelling name of the road.

I do wish that you people in the East would shape up and learn a few things about the rest of your country, particularly before you print such an asinine statement as is point four of the aforementioned article. I think that you ought to be particularly well informed about the section of the country that feeds you. This isn't meant to be a sarcastic letter. On the contrary, it's meant merely to be a friendly tip from a person who is probably one of the best friends that New England has in the Middle West.

ROBERT H. MILNER.

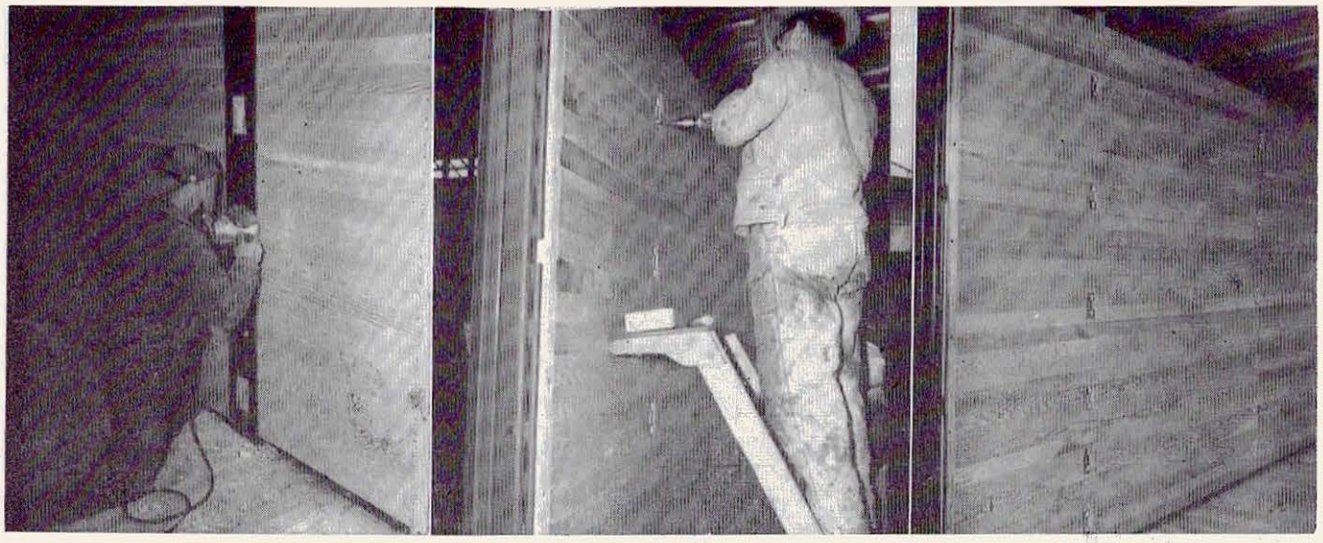
Galesburg, Ill.

All Monon efforts are dedicated to the single idea of service. Why not specify Monon on your next car? Prove to yourself that Monon service is really service-with-a-*plus*. There are 22 on-line and off-line Monon agencies serving the nation.

MONON

THE HOOSIER LINE

CHICAGO, INDIANAPOLIS AND LOUISVILLE RAILWAY COMPANY



Left—Use of wood router and steel template in cutting accurate holes for load anchors. Center—Drilling blind rivet holes through steel side-post flange. Right—Load anchors riveted in place flush with inside lining.

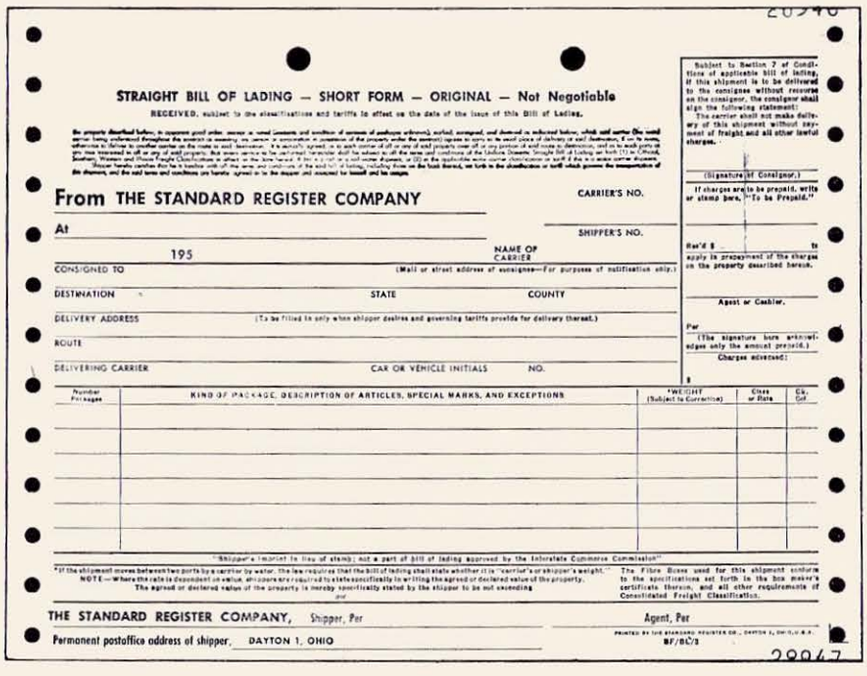
Steel Strap Anchors

Steel strap load anchors of a type recently developed and placed on the market by the Keystone Railway Equipment Company, 80 East Jackson boulevard, Chicago 3, are easily installed by car shop workmen with simple equipment and without special skill. They can be applied to any car of standard design, either new or old, as it is not necessary to remove or renew car lining in making the application. No special sections need be used or anything left off or added.

Holes in the side lining the exact size of the anchor are the first requirement and quickly made by a wood router and steel template. The template is placed on the side lining in line with the side post and secured with a few nails. All holes in the lining at each post are cut with one template setting; time required, 12 to 20 sec. per hole. The routers are loaned to railroads applying Keystone load anchors.

After holes in the lining are cut, the anchors, which are malleable iron castings double coated with a rust inhibitor, are driven into a tight taper fit in the side lining with a few hammer blows. The anchor is then securely held with blind rivets or stud bolts and nuts.

In the car illustrated, the Keystone load anchors were applied at alternate side posts, six per post, or 48 per car. Steel strapping is applied through these anchors to sectionalize and tie partial loads in place.



STRAIGHT BILL OF LADING — SHORT FORM — ORIGINAL — Not Negotiable

RECEIVED, subject to the classifications and tariffs in effect on the date of the issue of this Bill of Lading.

From THE STANDARD REGISTER COMPANY

At

195

CONSIGNED TO

DESTINATION STATE COUNTY

DELIVERY ADDRESS

ROUTE

DELIVERING CARRIER CAR OR VEHICLE INITIALS NO.

CARRIER'S NO.

SHIPPER'S NO.

NAME OF CARRIER

Number Packages | KIND OF PACKAGE, DESCRIPTION OF ARTICLES, SPECIAL MARKS, AND EXCEPTIONS | *WEIGHT (Subject to Correction) | Class or Rate | Ck. Col.

THE STANDARD REGISTER COMPANY, Shipper, Per

Agent, Per

Permanent postoffice address of shipper, DAYTON 1, OHIO

BF/BC/3

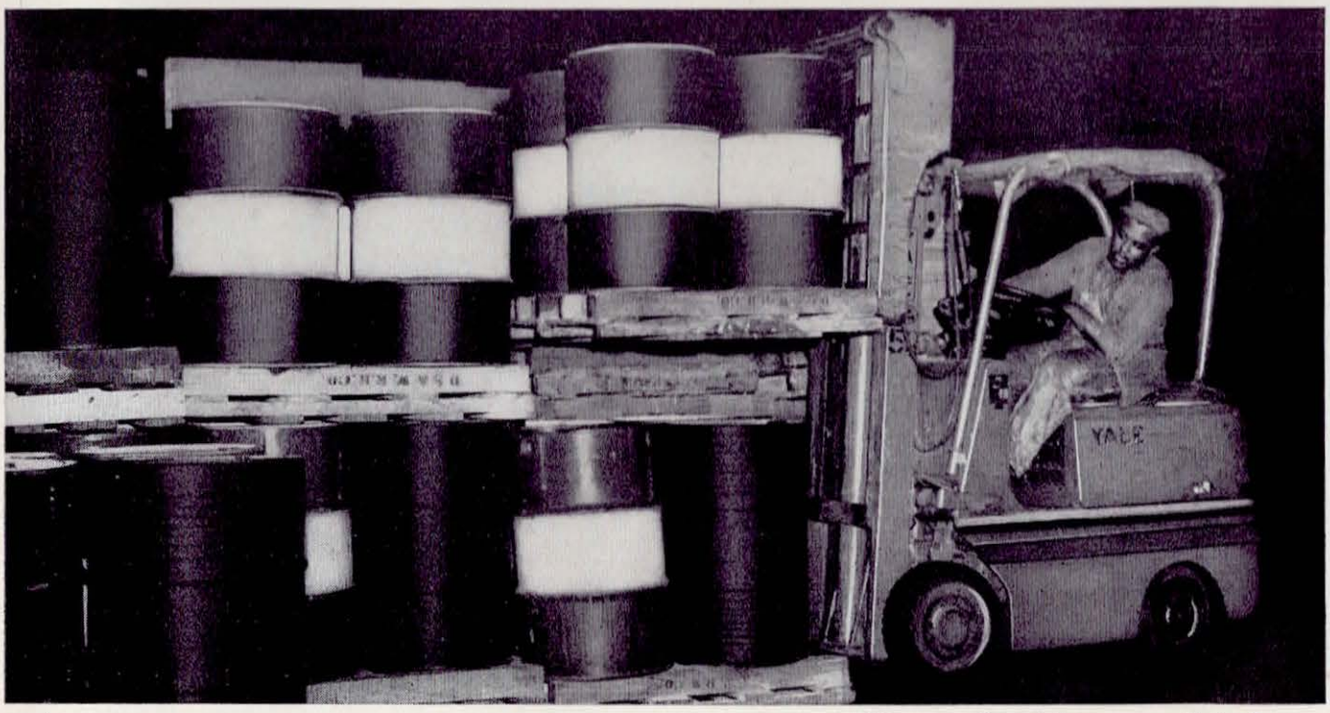
29047

New Short Bill of Lading Form

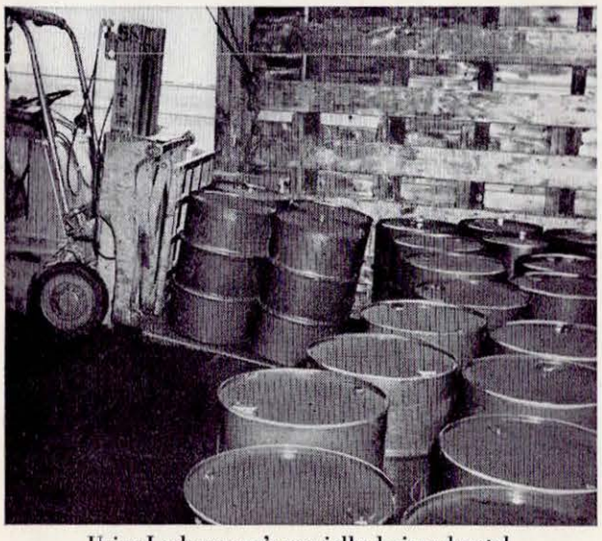
A new standardized uniform straight bill of lading, short form, has been introduced by the Standard Register Company, of Dayton, Ohio. This new "short form" is available in two sizes: 8½ inches by 6½ inches, and 8½ inches by 11 inches, with the line-to-line spacing in both forms designed to provide for fast writing speed on a typewriter or by hand. Both are available in either Kant-Slip Continuous, or one-time interleaved "Zipset" styles.

The new form is entirely legal, and can be used either for rail or truck shipments. Provision is made for the preprinting of: (1) the shipper's name and address at top and bottom; (2) the shipper's name under "Subject to Section 7 Clause"; (3) "To Be Prepaid" under "Prepaid clause"; and (4) "Correct Weight Box" if it applies. Popular freight classifications may be preprinted on any or all item lines, and special clauses such as "Explosive Clause," etc., also may be imprinted.

Lackawanna Keeps the Drums Rolling for Speedy Delivery of Oils and Chemicals



Shipments for pick-up are palletized and conveniently stored in the terminal.



Using Lackawanna's specially designed metal plate on fork-lift pusher trucks, drums are swiftly transferred for immediate shipment.

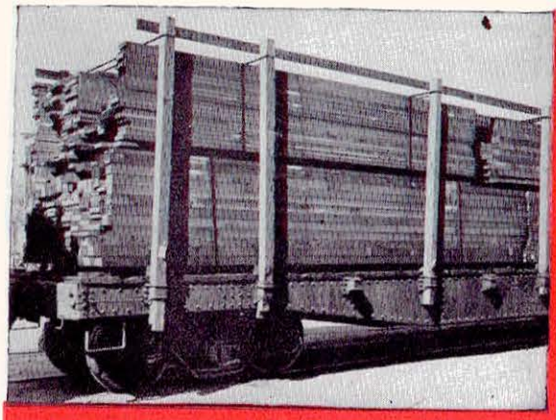
When manufacturing plants in the great industrial centers of Metropolitan New York and northern New Jersey require vital oils and chemicals to meet daily production quotas, experienced shippers know they can depend on Lackawanna to safely get the goods there on time!

At the many distribution points in Lackawanna's Hoboken Terminal, the handling of oils, chemicals and other such commodities is *completely mechanized!* Trained personnel, operating the latest fork-lift pusher trucks, swiftly transfer drums weighing from 500 to 900 pounds each from freight car, to warehouse, to barge...and vice versa. Using the most advanced freight-handling equipment, experienced freight crews can unload a carload of 100 drums weighing as much as 90,000 pounds, and speed them on their way—in just 45 minutes.

Whether it's oils or chemicals...perishables, heavy machinery, or packaged freight...modern Lackawanna efficiency adds up to preferred handling for your shipments. That's why so many of the world's great shippers specify Lackawanna—to or through New York.

Lackawanna Railroad

SHIPPERS WHO ARE IN THE KNOW, CHOOSE THE ROUTE OF PHOEBE SNOW



Lumber, loaded and strapped into unit bundles with Signode Steel Strapping as shown here, seldom goes to the rip track for readjusting.

Long rides on the rip track get you nowhere!

This tote box load of journal bushings is one of Signode's packaging methods widely used by railroads to handle supplies and stores, faster, easier and with greater safety.

Maintenance-of-way men like this Signode idea! Ties and other railroad timbers are strapped into unit bundles. That means easier handling, faster loading and unloading, and fewer accidents.

Railroads make less money when loads have long layovers on the rip track. Restowing and adjusting loads, such as lumber, eat up profits.

These costly bad order stops on the rip track can be reduced to short runs. How? By making sure that loading and recoopering crews know how to use steel strapping with maximum efficiency.

The personnel of rip track, freight house and stores departments' crews change frequently. Invite a Signode fieldman to brief today's crews on tested and approved methods on how to resecure bad order cars; install strong, low-cost bulkheads, brace stop-over, LCL and full carload shipments; apply retaining strips on doorways; and recoopering containers quickly. Write

SIGNODE STEEL STRAPPING COMPANY
2637 N. Western Avenue, Chicago 47, Illinois
Offices Coast to Coast
In Canada: Canadian Steel Strapping Co., Ltd.

SIGNODE

this seal means security in shipping

Benchmarks and Yardsticks

WITH ALL THE ARGUMENTS there are for enlisting "college men" as trainees for supervisory responsibilities — formal education, if taken too seriously, can ruin a man's capacity for leadership instead of improving it. C. I. Barnard, whose "Functions of the Executive" was mentioned in this space last week, reminds us (in his "Organization and Management") that "intellectual competency is not a substitute . . . for the other essential qualities."

Barnard lists five of the qualifications for effective leadership as follows: (1) vitality and endurance; (2) decisiveness; (3) persuasiveness; (4) responsibility; and (5) intellectual capacity. Formal schooling is likely to strengthen quality (5) —but it isn't the only means to that goal, nor a guaranteed means either.

Of two men of equal innate capacity for leadership—the only reason for expecting that the "college man" might actually acquire greater proficiency than the other is that forced intellectual activity for several years may give him habits of curiosity, analysis and self-criticism. If the man without the academic background can, on his own, develop habits of observation and study, he might go farther and faster than the "college man"—if for no other reason than the fact that he gets four years more intensive experience in dealing with people than does the boy who goes to college. Too much emphasis on proficiency at a specialized task seems to be as much a handicap to effective leadership as overemphasis on formal schooling.

The highly educated and the highly skilled must, then, view their seeming advantages with a sense of humility, if their advantages are not to handicap them. Those without formal education or exceptional specialized skill, also, need to be on their mettle, to acquire the habits of observation and analysis that experience in a job—by itself—will never give them. A good mind, alone, doesn't make a man a leader—but it is still an indispensable qualification.

Barnard believes that specialized departmental work provides too few opportunities for general experience in leadership. Desirable experience outside a man's specialty can be acquired by after-hours work in community affairs and local politics.

Effective leadership—using methods of explanation and persuasion, instead of crude coercion—is the essential difference between the free world, on the one hand; and the slave and half-slave worlds, on the other. Isn't the selection and training of such leaders in adequate quality and quantity the key to the survival of freedom?

J. G. L.

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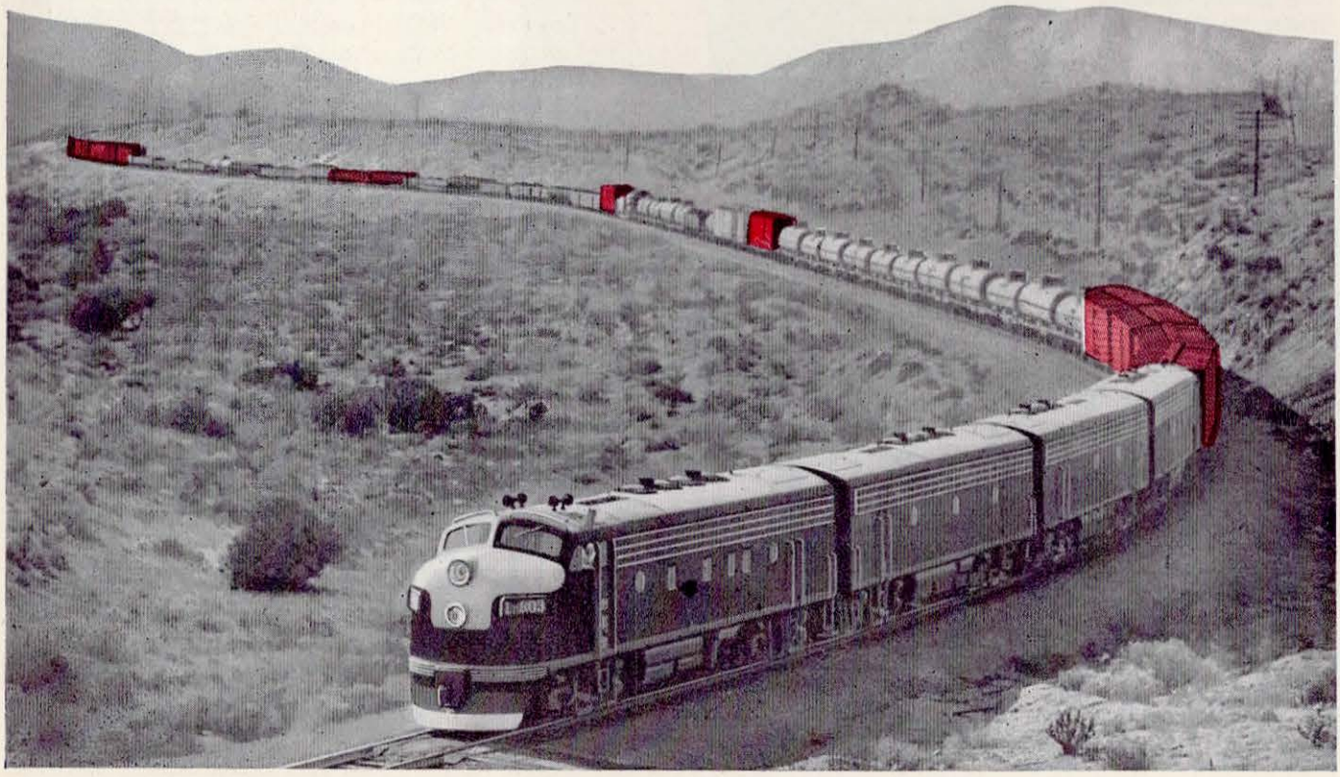


SPECIAL EQUIPMENT: NOT WHETHER, BUT HOW?

Be it good or bad, right or wrong, from the operating man's point of view, the number of specialized freight cars, equipped beyond the basic shell to serve the shipping needs of individual industries, is probably going to keep on growing. Competition with other forms of carriers makes such growth necessary; the need for cutting down claims makes it desirable. When a so-called "device" car can save a shipper up to $50 a load in labor and dunnage cost alone—not to count time—and greatly improve his claims experience, he will not be put off with arguments about "running up empty mileage."

Empty Mileage Not a Major Obstacle

It is not, therefore, any longer a question of *whether* such cars are to be furnished—where they really hold and attract traffic—but one of *how* the demand is to be satisfied without breaking the back of the railroads. Actually, the cost of increased empty mileage is not the major reason for worrying about an increase in "special equipment." Empty mileage on the railroads as a whole, in proportion to loaded car-miles, has varied little since 1920, despite a big increase in the proportion of specialized cars.

The real cause for concern lies in the high cost of the interior fittings required for special loading functions, and the waste involved when these fittings lose their utility through diversion of traffic or change of model or dimensions of the product being shipped.

Some time ago a railroad spent $2,000 per car to fit up a number of box cars to cradle washing machine tubs in such manner that neither adjustment of racks nor packaging of the tubs was necessary. Two months later the product was withdrawn from the market. The railroad was "stuck" with cars—with equipment in them which was totally useless for any other type of traffic. Just one railroad, among those involved, had to spend more than $2 million to dismantle the interior fittings of special stanchion cars for moving automobile engines and replace them, when a major manufacturer suddenly changed engine shapes and sizes. Several months ago there was to be seen near the riptrack of a railroad serving the motor vehicle industry a mountain of wood and metal parts torn out of specially equipped box cars when the specific traffic for which they were designed dried up.

Two Avenues of Approach

Easement of the burden now devolving upon the individual railroad in satisfying the needs of specific shippers whose business makes special equipment highly desirable may lie in two directions. One of them takes the form of a shift of special equipment from individual to pooled ownership, since the latter is better able to cope with traffic fluctuations than the former. This is already in effect, to a limited degree, in the servicing of certain segments of the automobile industry, where special equipment is furnished pro rata by a number of

railroads making up any given route, and made available to the originating road by agreement. For other situations the answer may be to fulfill shippers' needs for special box, hopper or gondola cars in the same manner as the needs of tank car users are now being satisfied almost universally—i.e., through the private car, owned or leased. Whole industries have been built on the fact that fluids could be moved in tank cars in bulk, in place of carboys. A wide range of tank cars, for every conceivable type of chemical lading, has been developed either by the using industry or by large, successful and profitable companies in the business of leasing tank cars. Railroads apparently consider the revenue from the movement of this traffic—minus mileage payments for both loaded and empty movement—desirable enough to go after it with enthusiasm.

The Tank Car Principle

Nobody has seriously suggested that the railroads should go into the business of maintaining these specialized cars on their own. Without suggesting that the railroads depart from the traditional responsibility of providing cars for transportation, may it nevertheless be set down that there is no obvious reason why the tank car principle of ownership and mileage payment could not be applied to certain types of special equipment of other categories, in limited situations. To do so would, of course, require mileage payments more on the order of those paid for tank cars.

The other means of easing the burden lies in the provision of a "device" car which is as nearly *universal* in utility as possible, but which will, at the same time, meet the need for easy loading, minimum packaging and dunnage, and freedom from damage, expressed by shippers of certain commodities for which, competitively at least, the conventional freight car is not suitable. Immense strides have already been made in this direction with a fleet of standardized box cars, embodying the latest in running and draft gear and interior fittings adjustable to a wide range of loads, and made available to railroads on long-term lease. Other devices have been utilized successfully by railroads in cars handling their own less-carload traffic.

Nevertheless the hunger of the shipping public for cars which will suit even more exactly the requirements of specific commodities continues to grow. For individual railroads to attempt to satisfy that appetite with improvised special equipment, restricted to individual shippers and commodities, is, at best, an expensive burden. At worst, the whims of industrial design and carrier patronage may leave the railroad "holding the bag" with cars containing perfectly useless insides. The answer is a spread in the burden of ownership and/or a spread in the range of utility of special cars. Toward the latter goal: inventors, please take notice.

INCREASED USE OF DIESEL POWER

The great increase in use of diesel-electric motive power on American railroads is a fact evident to all, but the phenomenal rate of this increase, especially in the past few years, is not always so fully appreciated. Figures compiled by the Bureau of Transport Economics and Statistics of the Interstate Commerce Commission, for example, indicate that the percentage of gross ton-miles handled in freight service by diesel locomotives of Class I roads jumped from 9.73 in 1946 to 52.66 in 1951, for the first time exceeding on an annual basis the proportion handled by all other types of power. The percentage of freight traffic hauled by coal-burning steam locomotives dropped in this same period from about 70 to 36; oil-burning steam locomotives from 18.60 to 9.65; electric locomotives from 2.11 to 1.83.

An almost equally pronounced change occurred in passenger service where diesels produced only 15.28 per cent of the passenger-train car-miles on Class I roads in 1946, as compared with 62.73 per cent in 1951. This increase in passenger train handling by diesel power occurred somewhat more at the expense of coal-fired than oil-burning steam locomotives. The percentage of passenger-train car-miles handled by electric power decreased only slightly from 6.48 to 6.38 in this same period.

Much the same graphic story of diesel progress is told in the figures for yard service, as measured by yard-switching locomotive-hours, the percentage of diesel hours increasing from 29.46 in 1946 to 67.79 in 1951, while coal-fired and oil-burning steam locomotive-hours decreased in roughly the same proportion.

Percentages of freight, passenger and switching operations handled by diesel power on 40 Class I railroads in 1946 compared with 1951, reported in a recent I.C.C. Monthly Comment on Transportation Statistics, are a significant indication of present trends. Most of the roads listed showed marked increases. In freight service, for example, the following nine roads showed 90 per cent or over of their gross ton-miles handled by diesel power in 1951: Lackawanna; Boston & Maine; Lehigh Valley; EJ&E; Seaboard; GM&O; Frisco; Katy; and Western Pacific. The Norfolk & Western was the only large road to have no diesel operations in 1951. The NC&SL and the IC used little diesel power in freight service in 1951, but showed substantial percentages in passenger and switching operations. The GM&O and the EJ&E used diesel motive power exclusively during 1951.

A major achievement in the modernization program of the National Railways has been the rehabilitation of the entire 802-mile Mexico City-Laredo line with 112-lb. rail and stone ballast. Centralized traffic control has been installed between La Griega and Escobedo, 38 miles.

Old Mexico's Railroads Go Modern

Improvement program pressed as essential to the country's industrialization

If your last trip into Mexico left you with the impression that the "Ferrocarriles Nacionales de Mexico" consisted of an over-extended prototype of a decadent short line—and this seems to be a common illusion among "Americanos"—then it is time to take a new look. The International route from Laredo to Mexico City, for example, now has new 112-lb. rail for its full 802 miles. The track is laid on creosoted ties with tie plates and rail anchors, and well ballasted with local stone. Most trains, freight and passenger, are diesel-electric powered. At important points—Neuvo Laredo, Monterrey, Escobedo and Mexico City—entirely new terminal facilities have been completed or are under construction.

This, and a great deal more, is part of a well-conceived program—the "Plan Aleman"—predicated to eliminate obsolescent facilities and substitute a physical plant which can efficiently handle a growing volume of traffic. Added tonnage is already resulting from new industry, and a better transportation plant will stimulate industrial growth. One aids the other. With a popula-

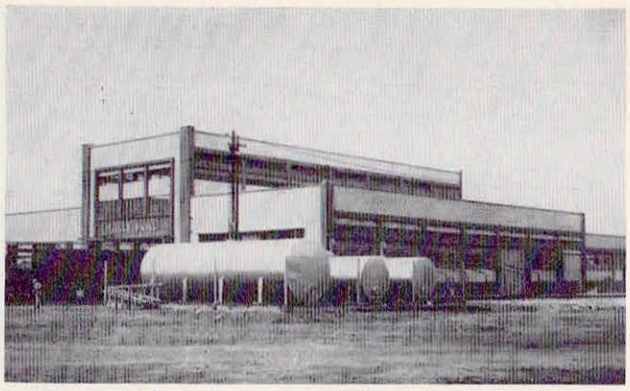
A modern building to house division offices, part of the "Valley of Mexico" terminal project, is under construction opposite the hump. An elevated office for the yardmaster commands an unobstructed view of the 48-track classification yard. The areas on each side are available for industrial development.

The strikingly modern station at Jalapa, capital of the state of Veracruz, is designed not only for the convenience of passengers, but to keep maintenance costs at a minimum. The glass enclosed tower will house the yardmaster who will control the approach tracks and the adjacent freight yards. The new structures in the background include steam and diesel maintenance facilities and car shops. The Jalapa terminal is at a new site, replacing congested and obsolete facilities built in the heart of town for the original narrow-gage Interoceanic Railway.

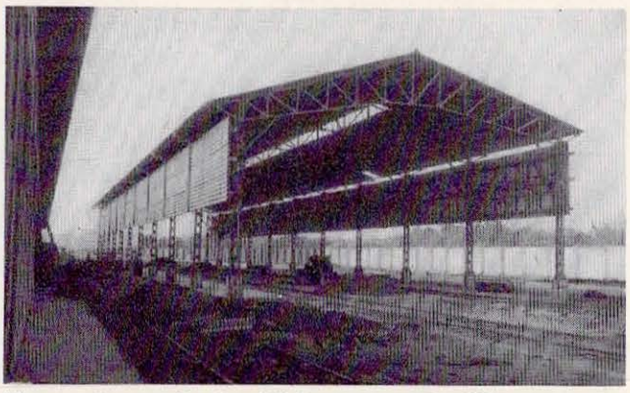
Standardization of gage of the Mexico City-Puebla-Oaxaca line required "daylighting" of tunnels and realinement of curves at many points—a job accomplished without major interruptions to traffic.

tion of 26 million—twice that of Canada in a land area only one-fifth as great—Mexico is lessening its historic dependence on agriculture. Exploitation of its rich and varied mineral reserves keynotes the republic's plan to achieve a healthy economic independence.

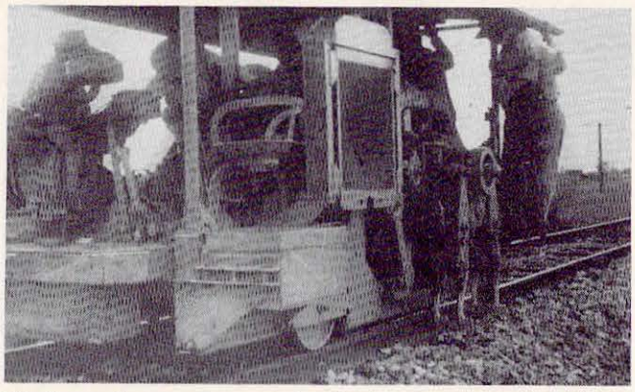
The NdeM is the product of a 1908 consolidation of some 6,000 miles of lines built by private concerns chiefly during the eighties and nineties. Recently the government has acquired control of the Mexican Railway from British interests, and the former Southern Pacific of Mexico (now called the Pacific Railroad) from the Southern Pacific, but these lines as well as the government-owned Southeast Railway, the Sonora-Baja California Railway, and the Kansas City, Mexico & Orient, are operated separately and not as part of the NdeM. Two years after the consolidation, in 1910, revolution broke out, and by 1914 most of the track and equipment had been devastated. In the words of one Mexican historian, "the railroads almost disappeared." In 1917 the rebuilding of the lines was begun. Lack of both capital and credit made this rehabilitation effort more of a patch-work job, using, for the most part, old material and equipment. Two world wars and an economic depression prevented any further important development of Mexico's railways. As recently as VJ-Day, the NdeM had control of an 8,384-mile railroad little changed from that which it had acquired 37 years before. Narrow-gage trackage made up more than 12 per



The new diesel shop at San Luis Potosi, centrally located, will handle all heavy repair work for the system. The shop is constructed so that it may be easily expanded.



The car shop at the Guadalajara terminal will have capacity for 46 freight cars and 10 passenger cars, and is constructed to permit expansion to provide up to 80 per cent additional capacity. Climatic conditions permit construction on the covered rip track principle.



Work equipment has mechanized approximately 50 per cent of all track maintenance on the NdeM.

cent of the mileage and accounted for 17 per cent of the motive power, 16 per cent of freight car ownership, and nearly 30 per cent of all passenger cars.

In 1946 railroad-minded President Miguel Aleman took office. He appointed Manuel R. Palacios as general manager of the National Railways, under whom the "Plan Aleman" has been administered. When the plan was instituted, there were still 1,101 miles of narrow-gage railroad. Of the 1,019 locomotives owned, about 70 per cent were more than 30 years old. Some dated back to 1880. So did the terminals, shops, yards and stations. Rail weighed from 40 lb. to a maximum of 90 lb. to the yard, nearly all laid during the period 1880 to 1909. The years 1947 to 1951, however, saw more than 700 million pesos ($80 million) pumped into modernization of road, equipment, yards, stations and shops. Outlined in tabular form in the April 1952 Ferronales, NdeM magazine, the list of improvements takes nearly 46 column inches of small type. Barring a major change in political thinking, which does not appear likely, this kind of program should continue at least through 1958.

Ultramodern Terminals

Ancient yards and terminals were compactly built in areas now acutely congested. There was little opportunity for expansion of the existing facilities at any of the NdeM division points. Yards had been designed for 30-foot cars. Completely new terminals, therefore, were planned at all important points, usually at entirely new locations where there were no physical restrictions to adequate design and future expansion. In each case they include new freight yards, passenger stations, steam and diesel locomotive maintenance facilities, freight stations and express houses. Several larger terminals will have medical centers. The following points are included in the current program, with progress indicated in parentheses:

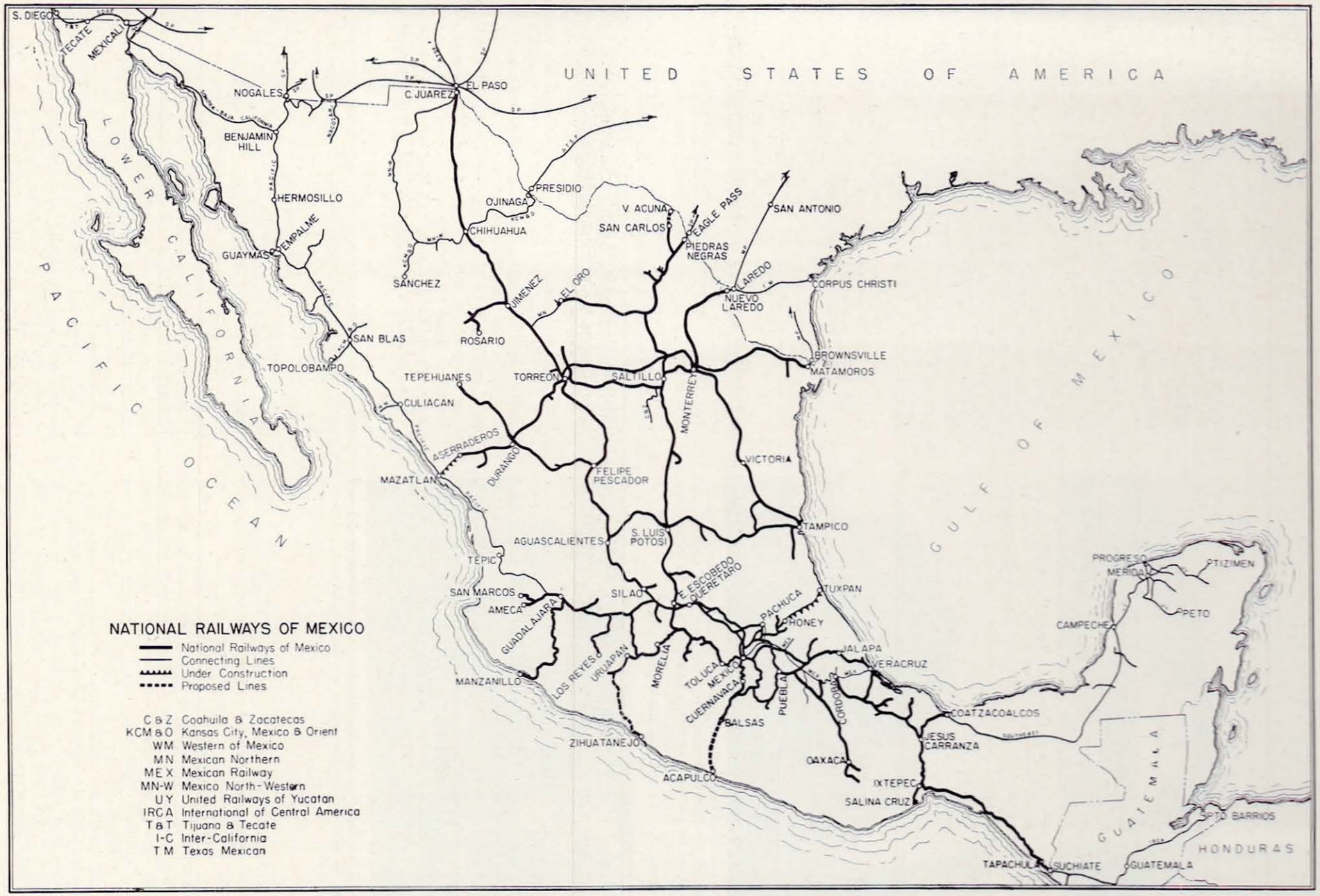
Mexico City (under construction)
Escobedo (completed)
San Luis Potosi (completed)
Chihuahua (completed)
Nuevo Laredo (under construction)
Monterrey (under construction)
Jalapa (to open September 1952)
Puebla (to open late in 1953
Guadalajara (to open late in 1953)

The largest project is the $29 million "Valley of Mexico" terminal at Mexico City (described in *Railway Age* February 4, 1952). By moving the Buenavista passenger station back several city blocks, valuable commercial areas are being made available. Sale of the land is contributing substantially toward the cost of the new passenger facilities. Two new hotels will be constructed adjoining the station. A 14-floor administration building will be put up for the railways, releasing high rental space in three different downtown buildings. The yards, shops, and an industrial center will be located in an area 2½ to 7½ miles further out. This distance will be spanned by a double-track main line, signaled with traffic control for movement in either direction on either track, and funneling into 12 station tracks with exit-entrance type interlocking, remotely controlled. The present station of the Mexican Railway will be torn down and connections provided to bring its trains into the new depot.

The new freight terminal will include a hump-retarder yard with 17 retarders controlling classification to 48 tracks, electronic scales will weigh cars in motion, and they will be inspected from an under-track pit as they are humped. Automatic switching ("push button" control of routes from the hump), augmented with high frequency radio on all yard engines, and a talk-back communication system, will combine to make the yard among the most modern in the world. A whole new industrial area adjacent to the yards will embrace warehouse space, team tracks and a customs office. It is designed to attract industry to the railroad, and permit speedy handling of lading to provide a much needed increase in car utilization. Shop and enginehouse facilities will incorporate all the latest technological advances, and the most advanced layouts, so as to expedite the turn-around of motive power and rolling stock.

Heavy repairs for diesels have been concentrated at a newly completed shop at San Luis Potosi, centrally located, and assignments are arranged so that all locomotives are worked to this point periodically.

About the time this story is published, the last im-


UNITED STATES OF AMERICA
PACIFIC OCEAN
GULF OF MEXICO
LOWER CALIFORNIA
S. DIEGO
TECATE
MEXICALI
NOGALES
BENJAMIN HILL
C. JUAREZ
EL PASO
HERMOSILLO
GUAYMAS
EMPALME
SANCHEZ
OJINAGA
PRESIDIO
CHIHUAHUA
V. ACUNA
SAN CARLOS
EAGLE PASS
PIEDRAS NEGRAS
SAN ANTONIO
LAREDO
NUEVO LAREDO
CORPUS CHRISTI
BROWNSVILLE
MATAMOROS
JIMENEZ
EL ORO
ROSARIO
SAN BLAS
TOPOLOBAMPO
TEPEHUANES
TORREON
SALTILLO
MONTERREY
CULIACAN
ASERRADEROS
DURANGO
MAZATLAN
FELIPE PESCADOR
VICTORIA
TAMPICO
AGUASCALIENTES
S. LUIS POTOSI
TEPIC
SAN MARCOS
AMECA
GUADALAJARA
SILAO
E. ESCOBEDO
QUERETARO
PACHUCA
HONEY
TUXPAN
JALAPA
VERACRUZ
MANZANILLO
LOS REYES
URUAPAN
MORELIA
TOLUCA
MEXICO
CUERNAVACA
PUEBLA
CORDOBA
COATZACOALCOS
BALSAS
JESUS CARRANZA
ZIHUATANEJO
OAXACA
ACAPULCO
IXTEPEC
SALINA CRUZ
PROGRESO
MERIDA
PTIZIMEN
PETO
CAMPECHE
GUATEMALA
HONDURAS
PTO BARRIOS
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GUATEMALA
NATIONAL RAILWAYS OF MEXICO
National Railways of Mexico
Connecting Lines
Under Construction
Proposed Lines
C&Z Coahuila & Zacatecas
KCM&O Kansas City, Mexico & Orient
WM Western of Mexico
MN Mexican Northern
MEX Mexican Railway
MN-W Mexico North-Western
UY United Railways of Yucatan
IRCA International of Central America
T&T Tijuana & Tecate
I-C Inter-California
TM Texas Mexican

portant narrow-gage trackage—480 miles from Mexico City to Puebla and Oaxaca, with branches—will be standardized, leaving only 280 miles of narrow-gage trackage, all on secondary lines. Of the 954 miles widened under the Aleman plan—all under traffic—about 42 per cent was laid with new 112-lb. rail, and the rest with the best relay rail from the reconstructed Laredo and El Paso lines.

The Oaxaca line required considerable skill to widen under traffic for it includes long grades up to 4 per cent, and curvatures up to 18 degrees. Tunnels had to be enlarged or "daylighted," cuts widened, and curves realined to take standard-gage equipment.

The new 112-lb. rail was so much higher than the 56-lb. rail it replaced that the main pins of narrow gage locomotives had to be machined down to clear the new rail while operating in the transition period. Typical of the gains from standardizing, daily tonnage capacity of the mountainous Vera Cruz line, with grades of 2.9 per cent, was increased 75 per cent when the gage was widened.

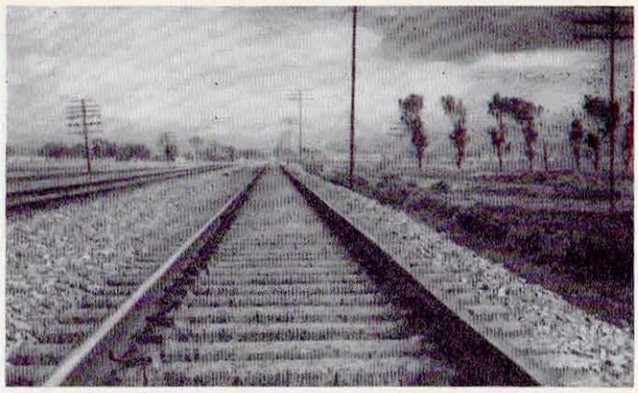
The Pan American route from Ixtepec in the Tehuantepec Isthmus south to Suchiate, on the Guatemalan border, is undergoing complete rehabilitation. Well worn 45-lb. rail has been replaced with 90-lb. relay rail from the Laredo line, and the roadway ballasted and built up so as to withstand the tropical rainy seasons during which washouts frequently closed the line for weeks at a time. Other 90-lb. relay rail went to the Matamoros-Monterrey line. The heavily trafficked oil routes between Tampico and San Luis Potosi, 276 miles, and between Tampico and Monterrey, 236 miles, were reconstructed with new 112-lb. rail. The El Paso route has been rebuilt with 112-lb. rail as far north as Irapuato, 219 miles, and similar work will proceed 634 miles further north to Jiminez. The line from Irapuato to Guadalajara, 162 miles, is next on the schedule.

Strategic railway development is still taking place, too. Forces are working around the clock to forge a new line from Aserraderos (formerly El Salto), in the state of Durango, through rugged mountain topography to the coast at Mazatlan, connecting there with the Pacific Railroad. This line will cut days from the transit time for agricultural products, minerals, and manufactured goods moving from the northern part of Mexico to west coast cities and ports. The accompanying map indicates the circuity now necessary for shipments moving west from the Durango area. A number of proposed extensions are shown on the map. The one to Acapulco would serve a steel mill planned in that area. Balsas is the most likely of four proposed starting points for the new line.

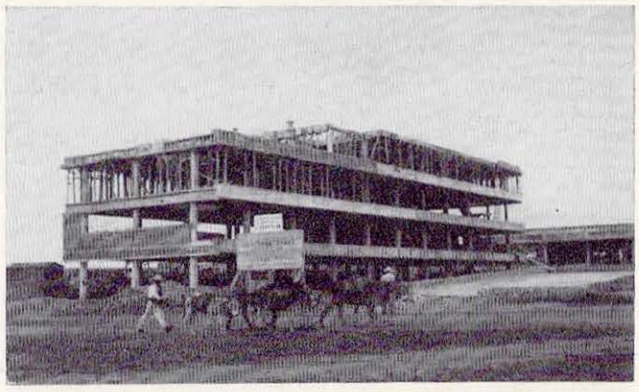
Use of Diesels Increasing

Diesels, 156 of them, now make up 23 per cent of all NdeM horsepower. By 1958 the percentage is to be raised, by the progressive acquisition of nearly 200 more locomotives, to 42 per cent. Bad water conditions exist in the northern part of the country. The Laredo-Mexico City line, where water trains have to be operated over one 243-mile stretch within which there is only one satisfactory source, will be the first route to be fully dieselized. As modern steam power is replaced, including 32 4-8-4 locomotives built new only 6 years ago, it is moved into service elsewhere, frequently on the newly standardized lines which, upon conversion, lose all use of their former rolling stock. The narrow-gage equipment, some of it more than 60 years of age, is being scrapped.

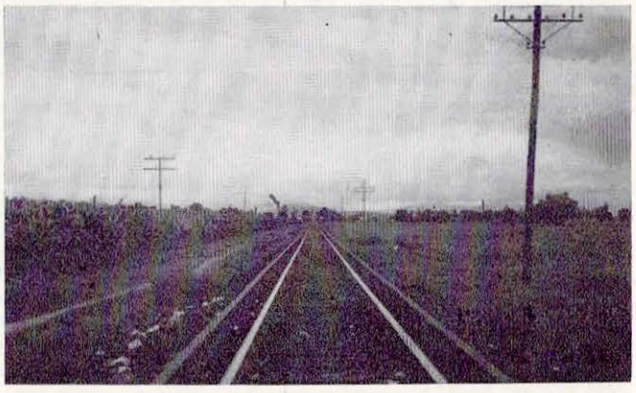
No factor has retarded the development of international traffic, or threatens to retard the handling by



A test installation of prestressed concrete cross ties on the main track approaching Mexico City.



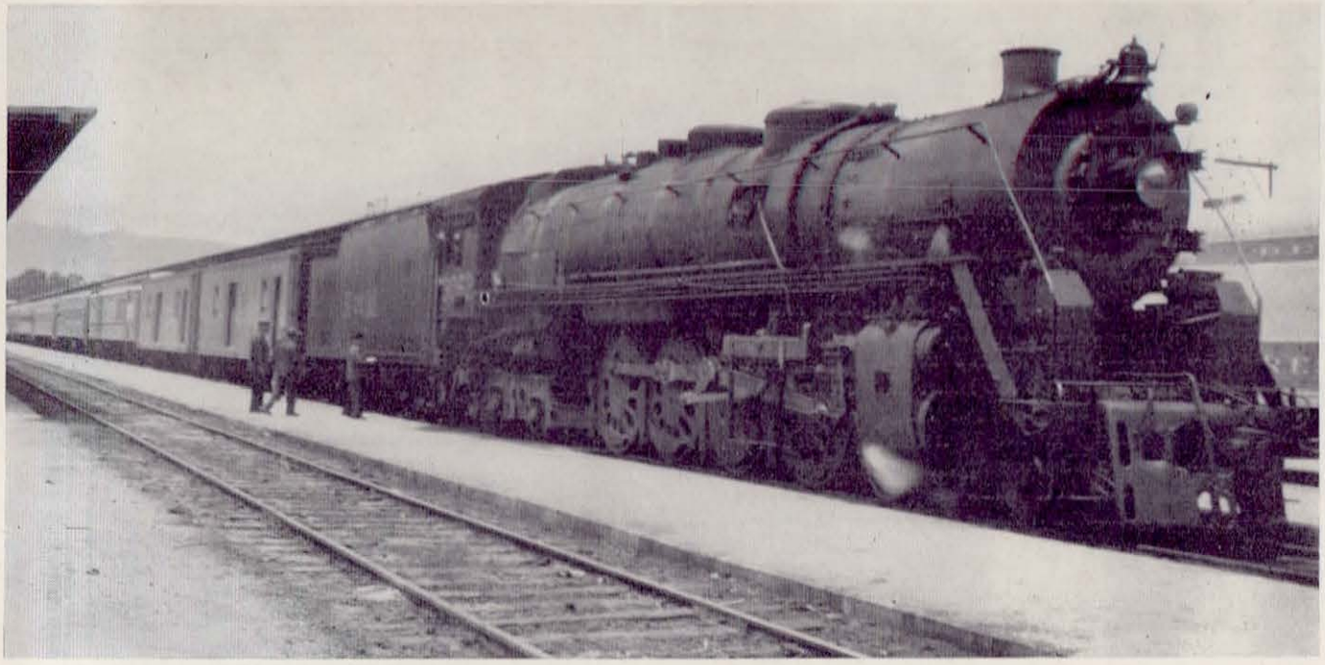
The new passenger station at Puebla, part of the complete terminal reconstruction at this point, will provide space for divisional offices.



Conversion to standard gage is accomplished first by replacement of every second tie, then by installation of the new rails on each side of the old rails. The new 112-lb. rail was rolled in 1951 by Colorado Fuel & Iron. The old 56-lb. rail was rolled in England in 1902. This view is on the Oaxaca line, which will be standardized late this year.

rail of Mexico's interior traffic, like the severe shortage of freight cars. This situation is accentuated by the widening of the three-foot lines. It has a most serious effect on the financial status of the railways, both in potential revenue not earned because of the inability to handle all available traffic, and the imbalance in U.S.-Mexican car supply. The NdeM pays a $2.75-a-day per diem rate for the U.S. car supply it is able to maintain. U.S. cars move into Mexico by A.A.R. permit only. Shippers often have to wait long periods for cars to load through to Mexico.

The National Railways are keenly aware of this problem. The administration has felt, however, that the physical plant had to come first, and the condition of those



A modern 4-8-4 steam locomotive handles train No. 3, secondary passenger train on the Mexico-Laredo line, out of San Luis Potosi. As more diesels are received, modern steam power will gravitate toward the southern part of the system where more satisfactory water conditions prevail.

facilities now being retired—the terminal at Jalapa is a good example—indicates the merit of this action. For some time now negotiations have been under way with United States, European and Japanese manufacturers to arrange for construction of new equipment and a supply of machinery and tools for car repair and car building facilities. Plans are now jelling for construction of a freight-car building plant at Pachuca, 60 miles northeast of Mexico City (this plant was earlier expected to be at Monterrey) to be financed 51 per cent by the government and 49 per cent by loans from the Export-Import Bank and local industries. Capacity of the new "Compania de Carros de Ferrocarril, S.A.," at the start, will be only 1,200 cars a year, which fits in with the maximum allocation for material for export to Mexico set by the U.S. National Production Authority. It is by no means the only step in this direction under consideration. According to a survey issued by the Federation of Industrial Chambers of Commerce, Mexico needs an estimated 12,000 additional freight cars to provide adequate transportation, and in view of expanding industrialization, this is regarded as a very conservative estimate.

Passenger Business Booming

The NdeM is very much interested in its passenger business. It has been on the increase right along. If more equipment was available, the volume could be increased substantially. Only the surface has been scratched; the highways teem with crowded buses and the air lines are busy between all important Mexican cities. The number of railroad passengers carried increased threefold over the last twenty years, as indicated by the following totals:

1931— 8,169,372
1941—17,600,465
1951—25,643,105

Passenger revenues contributed about 13 per cent of 1951's gross operating revenues. With mail, express, and other passenger-train earnings included, the proportion is about 20 per cent. Much of the domestic travel is second class, at a very depressed rate, equivalent to about 0.65 U.S. cents a mile. First class rates are about 1.16 cents a mile in coaches or Pullman, with supplementary space charges on the latter.

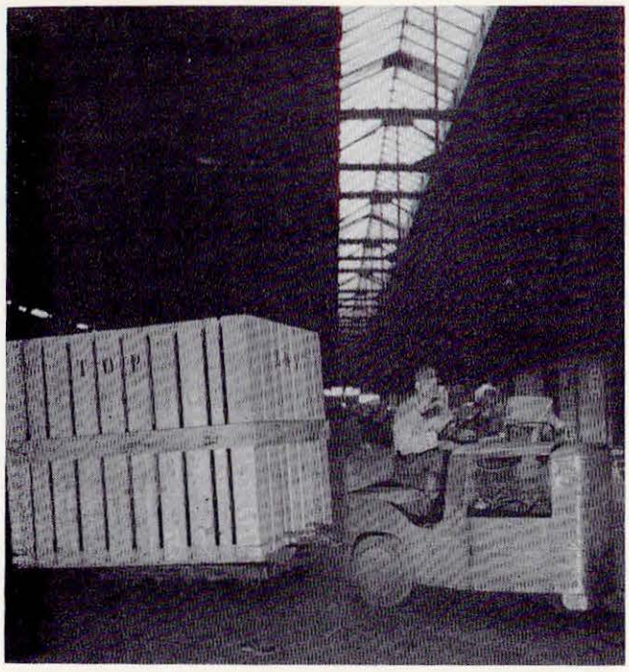
To attract American tourists to the rails, three entirely new passenger trains will be placed in service, probably early in 1953, over the rehabilitated Laredo-Mexico City line. Schedules are to be improved by more than three hours. Cars for these trains are nearing completion in the shops of the Schindler Carriage & Wagon Co., at Pratteln, Switzerland (*Railway Age*, June 16, page 14; December 31, 1951, page 16). The trains will be powered by U.S.-built diesels from the present NdeM pool. Each train will consist of nine lightweight cars as follows:

1 mail baggage
1 chair car (for domestic travel)
2 chair cars (reserved seats)
1 full dining car
2 8-sec. 3-double bedroom sleepers
1 2-drawing room 7-double bedroom sleeper
1 bar-observation

All cars will be air-conditioned except the first two. No second class passengers will be handled on these trains.

The same Swiss firm is building 30 first class coaches, and Charentaises, in France, is constructing 50. The Pullman-Standard Car Manufacturing Company recently delivered 22 80-foot coaches for first class travel. The first photographs to reach the United States of the Swiss-built coaches are reproduced in the news pages of this issue.

If President-elect Ruiz Cortinez, who takes office December 1, is willing to continue the "Plan Aleman" for the railroads during his term ending in 1958 (and indications are that he will), Mexico can look forward to a completely revitalized railroad, equal to the nation's growing demands for transportation, and comparable in capacity and efficiency to the best railways elsewhere in the world.



Many shippers have felt they should be entitled to a lower rate basis on larger l.c.l. shipments—aggregating around 5,000 to 6,000 lbs. or more per shipment.

Advantages to carriers in having larger shipments palletized are obvious. Incentive discounts should encourage more shippers to tender larger shipments this way.

Making L. C. L. Pay Its Way

Defining a "standard" shipment, and suggesting rules and regulations dealing therewith

(Part II)

Written especially for *Railway Age*
By A. M. RIBE
Traffic Consultant

This concluding portion of a two-part article suggesting a new concept of compensatory rates and charges on l. c. l. shipments, tells how the author believes this goal might be achieved. The first part of this article, setting forth the detailed proposals and discussing the general merits of the plan, appeared in the August 4 Railway Age.

Many carrier representatives have said from time to time that "we could save considerable money in handling our l.c.l. traffic if only it were given to us unrouted"; or "if only we could get it all on a harmonized or unit bill of lading"; or "if we could only get the consignor to fully prepay all l.c.l. shipments"; or "if we could only get it in larger packages."

At the same time, many shippers have felt they should be entitled to a lower rate basis on larger l.c.l. shipments —aggregating around 5,000 to 6,000 lb. or more per shipment. There is good indication that the railroads could handle l.c.l. traffic more efficiently and economically if it were turned over to them in larger lots.

Parts 4 and 5 of my proposal* attempt to point out a solution to these problems. We have provided three cumulative discounts of 5, 10 and 15 per cent applicable where certain specifications are met. Actually, we have no way of knowing precisely what the discounts should be—the figures of 5, 10 and 15 per cent are offered merely as a basis for discussion.

While we have suggested that these discounts be cumulative, there is no reason why they should not be independent of one another, if it is felt they will operate better that way—except that we can see no particular advantage in having extremely small shipments palletized.

These discounts are simply an inducement to the shipping public to turn its l.c.l. shipments over to "the railroads in exactly the form the latter would like for most efficient handling and transportation."

Certainly if, in preparing shipments to the carriers' detailed specifications, the shipper incurs additional expense and trouble for himself to help the carriers reduce their costs, he is entitled to share in that saving. This could be done by reimbursing him for his extra expense, together with a small profit for his efforts.

Section b of Part 5—suggesting discounts for volume l.c.l. shipments—is of primary interest to shippers. It provides for reduced charges on individual shipments aggregating, say, 6,000 lb. or more. There is nothing magical about 6,000 lb.—it could just as well be 5,000 or 7,000 lb. We selected 6,000 lb. because that quantity is exempt from the marking provisions of classification Rule 6, and because it is, we believe, the most general minimum weight for the handling of trap or ferry cars without extra charge. Further, some of our motor carrier friends say it is general practice for them to handle

*Railway Age, August 4, page 69.

The rate penalty provision of the present rules frequently discourages the use of stop-in-transit privileges. A revised rule to encourage greater use of this privilege is suggested.

shipments under 5,000 or 6,000 lb. across station platforms, while larger shipments go in road vehicles direct to and from shippers' docks.

We believe railroad studies would show clearly that larger l.c.l. shipments—aggregating between 5,000 to 10,000 lb. a shipment and more—can be handled much more economically per unit of weight than smaller shipments.

Economy of Large Shipments

There are several reasons for this. A single 6,000-lb. shipment incurs only one clerical cost in connection with rating, billing, etc., whereas, 60 different 100-lb. shipments would require 60 times this cost. One shipment of 6,000 lb. obviously can be more easily tallied, handled across the platform and stowed in the car than sixty 100-lb. shipments.

One of the greatest economies which the carriers should be able to effect would appear to be in pick-up-and-delivery charges. True, as we understand, most p.&d. contracts generally provide for a flat charge per 100 lb., regardless of the weight of the shipment. However, it is quite evident that a truck loaded with four 6,000-lb. shipments can make those deliveries more cheaply than a truck loaded with a hundred or more smaller shipments.

We believe the shipper who is able to ship in larger quantities is entitled to consideration because of the lower cost (per 100 lb.) of handling his shipments. Even more important, however, we believe that a reduction in p.&d. rates on larger l.c.l. shipments would induce shippers to accumulate larger shipments more often than at present. Such action on the part of the shippers—the accumulation of larger shipments—should assist the carriers in handling all l.c.l. freight more efficiently and at a lower cost, thereby minimizing the need for further general rate increases.

In deciding just how large a reduction should be granted for shipments of 6,000 lb. or more, the carriers should be willing to pass on a sufficient portion of their savings in handling costs to induce shippers to make a conscious and deliberate effort to accumulate larger quantities. Certainly, in many instances, a fairly substantial discount in transportation charges should encourage buyers to order in larger quantities. This would benefit the shipper by assisting him in making sales in larger quantities.

The third aspect of Part 5 suggests an additional discount for larger shipments which are palletized. The advantages to the carriers in receiving these larger shipments palletized are obvious.

Discounts on Percentage Basis

We suggest that all reductions contemplated under Part 5 of our suggestions, be made by giving stated percentage discounts from the total freight charges.

We make this suggestion for several reasons. *First*, such reductions can be published easily and simply in the form of a short tariff rule—rather than by voluminous and complicated rate tables. *Secondly*, such percentage discounts can be applied in connection with any ratings or rate scales now in effect or which later may be placed in effect. *Thirdly*, the discount can be changed from time to time as conditions warrant, without the necessity of republishing voluminous rate scales.

The method of publishing list prices subject to varying discounts as varying conditions are met is a legitimate method of pricing well recognized throughout American industry. There does not appear to be any objection to its adoption by the transportation industry.

One important feature in connection with Part 5 is that each section is independent and its use is optional with the shipper. Every shipper can examine the requirements necessary to earn the offered discounts and apply them to all—or any selected portion—of his shipments. If he feels that he can earn the discount at a saving to himself, then he will do so and the carrier will benefit. If, on the other hand, the cost of meeting the requirements exceeds the savings which might be earned through the discounts he may still use present rates and charges.

Many shippers point out that the terms of sale in most industry are f.o.b. point of origin. They say that to require them to prepay transportation charges would entail additional working capital. If prepayment is optional, however, the shipper need decide only whether the discount offered in return for prepayment of charges will or will not pay for whatever additional working capital is needed, plus any other additional expenses.

The provision that all discounts should accrue to the consignor has likewise been criticized. We have good reasons for that provision. First, the shipper incurs all extra expense of preparation, and consequently he should be allowed to determine whether he wants to incur that expense. It is likewise up to the shipper how much—if any—of this discount he wants to pass along to the purchaser on the invoice. It was felt more desirable to make this allowance payable to the consignor since many shippers offer quantity discounts anyway, and the shipper could then combine the freight discount and his other quantity discount into one discount on the invoice.

Another reason for making discounts payable to the consignor is to provide only one l.c.l. rate between any two given points on any article, regardless of its size or the manner in which it is tendered for transportation. The rate appearing on the freight bill would be the same on all l.c.l. shipments. Discounts would not affect the *rate;* they would simply be allowances paid the shipper, in much the same manner that pick-up allowances are now handled.

Parts 6, 7 and 8 propose rules for handling two or three "intermediate-volume" shipments in a single car. They are designed to afford a basis of rates for railroad shipments weighing from, say, 8,000 to 10,000 lb. up to 22,000 to 24,000 lb. Less carload shipments of this size are a problem peculiar to railroads. For truckers, they are, generally, full vehicle loads. The railroads seek to meet this competitive problem with their stop-in-transit privileges. However, there are several serious deficiencies in the present stop-in-transit rules, in that they do not afford a complete basis of rates on "intermediate-volume" shipments.

One objection is that the rate charged for shipments to intermediate points is dependent upon the final destination of the car. Thus, a receiver at an intermediate point never knows what his freight charges will be unless he knows the final destination of the car.

The rate penalty provision of the present rules frequently discourages the use of stop-in-transit privileges. Further, inasmuch as the intermediate rate is entirely dependent on the final destination of the car, actual charges to intermediate points can fluctuate widely, sometimes benefitting one receiver and penalizing his nearby competitor.

A second serious deficiency of the present stop-in-transit rules is that they do not allow separate consignments in a car to move to two different consignees in the same switching limits.

We have endeavored to overcome the deficiencies of stop-in-transit privileges, and, at the same time, avoid the pitfalls in establishing "intermediate-volume" rates on minimums of 15,000 to 20,000 lb. We suggest a multiple-loading rule governing "intermediate-volume" shipments which can be published *either* in lieu of the present stop-in-transit rules *or* in addition thereto.

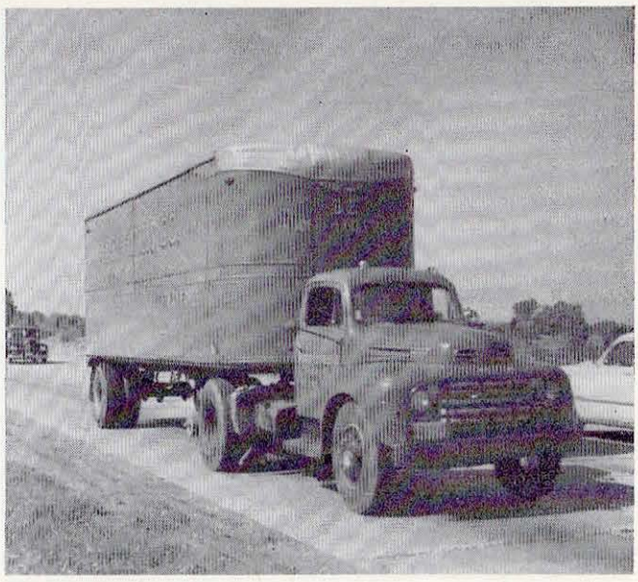
Our proposed rule provides that two or three intermediate-volume carload shipments can be loaded in the same car and consigned to one, two or three consignees at one, two or three destinations where the destinations are intermediate over existing tariff routes, or intermediate under tariffs authorizing stopping in transit. It provides for a minimum weight on each intermediate-volume shipment of one-half of the regular carload minimum weight. Where there is more than one carload minimum weight in connection with a given commodity between two particular points, the intermediate volume minimum weight will be 50 per cent of the lowest carload minimum weight. Freight charges are to be assessed at the carload rate to each destination, with the proviso that the rate assessed at each intermediate destination must be at least 70 per cent of the carload rate to the final destination.

"Additional Charge"

Also proposed is an additional charge on each shipment—which we have suggested be $28.60. This is the minimum carload charge applicable east of the Mississippi river without the Ex Parte 175 surcharge.

This $28.60 charge per shipment is considerably higher than present stop-in-transit charges. However, it is suggested for two reasons. First, the proposal contemplates protection of the carload rate to each individual destination, thus eliminating the rate penalty involved under present stop-in-transit rules. All receivers of a given quantity of a particular kind of freight moving from a given origin to a given intermediate destination will be treated alike. Each will pay the same rate and the same additional charge.

A second reason for proposing the $28.60 charge is to enable the carriers to make more than one delivery within the same switching limits.



A discount for volume l.c.l. shippers is suggested because these shipments, when moved by truck, are subject to the lower truck-load rates.

Of course, the proposal could be changed so that each receiver would pay some given percentage higher than the carload rate in lieu of the flat charge of $28.60. For instance, the flat charge of $28.60 could be abolished and the rates simply made 110 per cent or 115 per cent of the carload rates.

We believe, however, that the flat charge of $28.60 per shipment has definite advantages. It maintains the changes on an *incentive* basis. It is to the shippers' and receivers' advantage to load as much heavier than the minimum as possible in order to spread the effect of the $28.60 over a greater weight. Thus, the more weight in a given shipment, the cheaper per 100 lb., the transportation charge. This heavier loading is advantageous to the carrier because it earns the carload rate on every pound above the minimum—which is additional revenue requiring no appreciable additional expense.

To intermediate destinations, provision is made for a minimum rate equal to 70 per cent of the carload rate to the final destination. This is to prevent, for example, consolidation of a shipment originating at Chicago, and destined to Rockford, Ill., with one also originating at Chicago and destined to El Paso, Tex. Studies we have made show the effect of this 70 per cent rate limitation, generally speaking, will be to assure an intermediate haul at least 50 per cent of the total haul.

We believe each part of our proposal is justified on its own merits, and each can easily be adopted and placed into effect individually. We believe that adoption of something along the lines of these proposals is desirable since it would provide a logical and consistent basis for assessing rates and charges on all types of l.c.l. shipments from the very smallest to the very largest. And at every step of the way it would provide incentives to encourage practices making possible more economical operations—thus producing lower overall transportation costs for the l.c.l. shipper and greater income for the railroads.

We have always believed that the shipper and the transportation agency are partners and that the partners should sit around the table and work out mutually satisfactory arrangements under which all can prosper.

The rough terrain of southeastern Wyoming is being overcome with a new westbound line at a ruling grade of 0.82 per cent. At its beginning at Dale Creek a Manitowoc 5-yd. rock shovel is working on the first 110-ft. deep cut.

Cutting Down a Mountain Summit

Long-standing ambition being realized in a large line-change project that will effect substantial economies in operation

Anyone visiting the country south of the Union Pacific's double-track main line between Cheyenne, Wyo., and Dale Creek might well ask "What is going on here?" because there is a great amount of grading work now under way there. This work is being done in connection with the construction of a brand new line (see map and profile), 42 miles in length, being built by the UP at a cost of $16 million over Sherman Hill which, with an elevation of 8,014 ft., is the highest point on this road.

Although the new line will be single-track for most of its length, it will carry the road's westbound traffic between Cheyenne and Dale Creek up a maximum grade of 0.82 per cent. A portion of one of the mains of the existing double-track line will be taken up, but the existing route, which has a maximum grade of 1.55 per cent, will handle the eastbound movements. The reduction of the 1.55 per cent grade will eliminate the last grade between Omaha and Ogden which is in excess of the ruling grade of 0.82 per cent, increase the utilization of locomotive power, and effect a considerable economy in the railroad's operations. The reduction in grade will also mean a saving in locomotive fuel consumed.

Although the proposed westbound route will be nine miles longer than the existing line, train running time will be reduced as much as 15 min. because of the reduced grade. The new line will also take travelers through more scenic country than the present route, since much of the area is park-like, featured by fast-running streams and clumps of pines separated by grassy meadows where deer and antelope abound. It is also pointed out that the separation of the old and new lines has a national defense value as well as affording a flexibility of operation that will conserve manpower, equipment and fuel.

The new line will be double-track for six miles at its east end between Cheyenne and Speer, where it crosses the road's single-track line running southward from the double track to Denver. This double track will facilitate the flow of traffic to and from Denver.

The project also calls for the installation of remote control of all junction switches, light-angle turnouts, and modern color-light signals installed and spaced for ultimate installation of centralized traffic control.

Made Possible by Modern Equipment

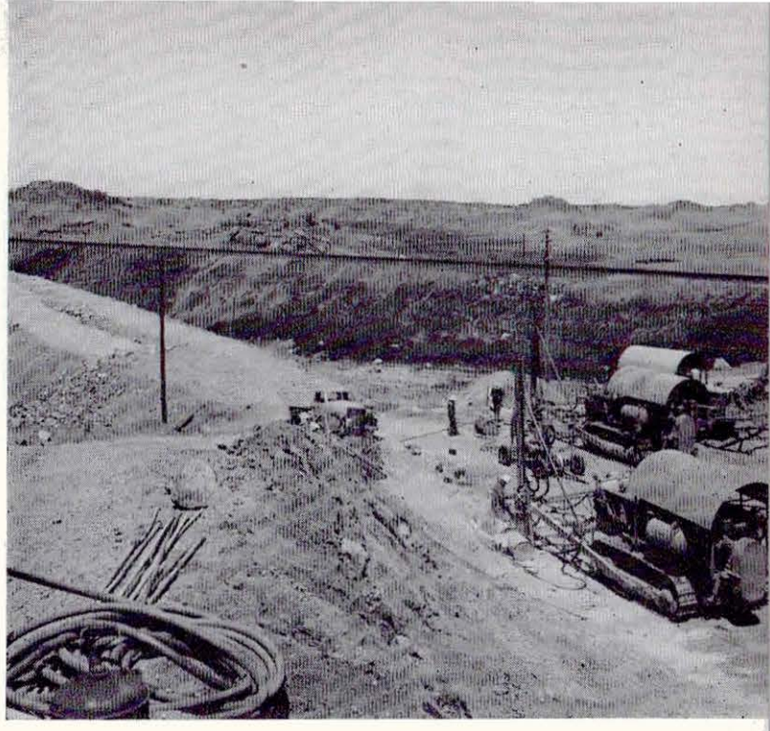
When the original line was constructed in 1868 the builders chose the easiest route over the top of the hill. According to W. C. Perkins, chief engineer of the UP, the road has long recognized the advisability of a new westbound route around the summit of Sherman hill, but the realization of this ambition was not possible until now. "We now have the volume of traffic to warrant the change and the necessary heavy equipment to do the job," he declared.

The equipment includes modern earthmoving machines and carriers that are now available for excavating and

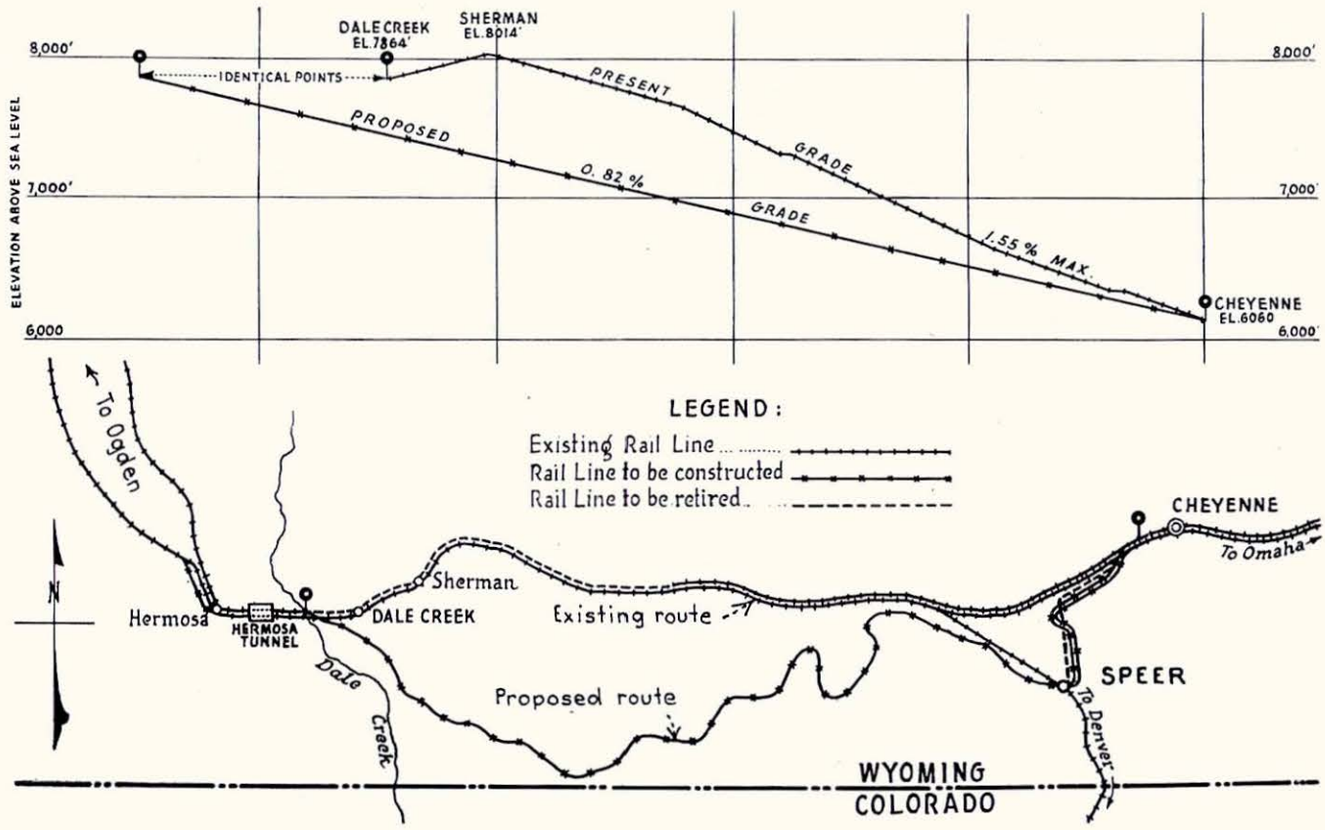
GRADING EQUIPMENT BEING USED ON PROJECT

2—5-yd. Manitowoc rock shovels.
3—2½-yd. Northwest 80-D rock shovels
1—Euclid loader
19—17-yd. end-dump Euclid trucks
11—13-yd. bottom-dump Euclid trucks
5—15-yd.Terracobras (rubber-tired earth movers)
8—patrols (1 Allis-Chalmers, 1 Adams and 6 Caterpillar)
2—rotary Portadrills
3—DW-20 Caterpillar earthmoving machines
32—Caterpillar tractors
1—TD-24 International tractor with accessory equipment for dozers, rippers, and 17-yd. Carryalls
6—Caterpillar tractor rock drills equipped with Worthington air compressors
2—truck cranes
1—Hydrocrane for assembling metal culverts and laying pipe
12—air compressors
Plus miscellaneous equipment

One of the 180-in. culverts being placed as an underpass for a county road. This culvert will be floored with gravel.



Three caterpillar tractor drills boring holes so that rock can be blasted away to the proper grade.



Map and profile show that, while the new line is nine miles longer than the old, the reduction in grade more than compensates for the increased distance. It is expected to cut the running time of trains as much as 15 min.

hauling large quantities of earth and rock, and which are being used by the Morrison-Knudsen Construction Company, of Boise, Ida., which was awarded the contract for moving 7 million cubic yards of material involved in this project. In addition to the large variety of earthmoving equipment (see list) employed for this work, there are a number of trucks, pickups, flatracks, grease trucks, sedans for the transportation of supplies and personnel, winch trucks, wagon drills, and light plants.

Practically all of the 25 miles at the east end of the new line is being graded through common gravel and clay. The majority of the remainder of the line is being graded through decomposed granite and solid rock. Grading was begun on February 18, 1952, and is now half completed. Progress has been very favorable due primarily to good weather and a mild and relatively dry spring.

It is anticipated that the rock excavation will be completed in May or June 1953 and that the earth work

Heavy earthmoving units made the line change feasible. Here, after the soil has been loosened first by rippers, a Euclid loader, hauled by crawler tractors, is loading one of the 17-yd. button-dump trucks.

will be completed sometime in the fall of 1952. Because of the favorable weather conditions, progress is ahead of schedule. How well the work is progressing can be seen by the fact that 3 million cubic yards of material had been moved by July 1, of which over 1 million yards were moved during June alone. Of this last amount, 300,000 cu. yd. were classified as rock excavation.

The target date for completion of the entire project is August 1953.

In general, the fills are being constructed with 1½:1 slopes and cuts with 1:1 slopes, except where slight deviations are required to fit special soil conditions. There are no unusual provisions in the grading specifications for compaction of fills since the heavy equipment moving over the material assures adequate consolidation. Also, no special steps are being taken to protect side slopes from erosion because the soil materials are heavy rock, clay and sand not particularly susceptible to erosion, and because the area through which the new line is being built has a relatively light average annual rainfall and generally little snow.

One of the largest fills will be 112 ft. high across the deep valley of Sand creek, about midway between Cheyenne and Dale Creek. The largest fill—164 ft. high—will be at Texas creek, which is nearer the Dale Creek end of the new line. This fill will require 775,000 cu. yd. of material and will be 516 ft. wide at the base. Beneath this and the Sand Creek fills, metal culverts of 60-in pipe, encased in concrete, have been installed.

High Fills and Deep Cuts

The deepest cut is being made about a mile and a half from Dale Creek. This cut will be 110 ft. deep and require the removal of 300,000 cu. yd. of rock. Most of this yardage will be hauled farther along the line for constructing embankment—the longest haul is 8,000 ft.

The contractor has divided the grading work on this project into eight sections or "spreads," each of which

One of three maintenance shops built by the contractor at strategic locations where the machines and other equipment can be taken for servicing and repairs.

This Northwest 80-D shovel takes 2½ cu. yd. of material at one bite. The 17-yd. end-dump truck hauls and dumps the material where it is needed for building up fills.

is under the direction of a superintendent. Each spread has a 5,000-gal. diesel fuel oil tank which is serviced by independent suppliers from Cheyenne. Supporting this layout are three metal repair shops temporarily located along the route for the duration of the grading work, and five minor field maintenance shops—all for the servicing and repair of the equipment.

There will not be any bridges along this new line—all waterway openings and underpasses being in the form of culverts. There will be 23 180-in. and 2 150-in. Armco Multi-Plate pipe culverts, all of which are now in place. Also, many 72-in. Multi-Plate and 60-in. ready-made corrugated metal culverts have been installed. The drainage for Lone Tree creek, one of the larger streams encountered, will be handled by a 180-in. culvert. With the exception of two other 180-in. culverts, which will provide passage for county roads, the remainder of the culverts will provide stock passes and handle the flash floods that occur in this territory.

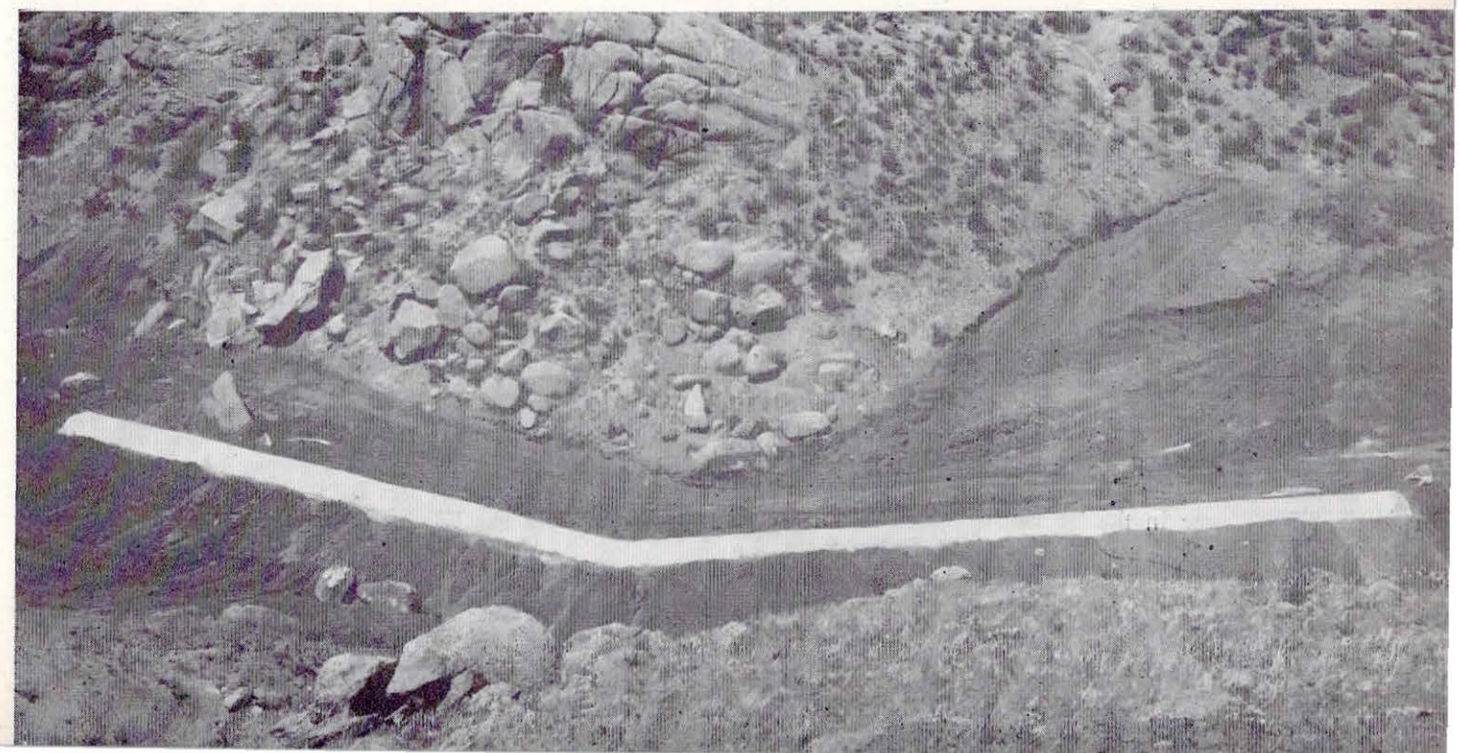
Where county roads pass through the culverts, the bottoms of the openings are covered with gravel and an asphalt pavement, 4 in. thick, applied over the surface.

Track and signal work, as well as the installation of the communication lines, are being done by railroad forces. The track will be built of 133-lb. rails, supported on treated ties laid in Granite Canyon ballast throughout. This work was started on June 15, 1952, and is expected to be completed in July 1953. The erection of the right-of-way fences is more than 60 per cent completed.

A water and a coaling station, together with the necessary section houses and roadway buildings, will be constructed along the new right-of-way 32 miles out of Cheyenne.

There are 200 railroad men employed on this project, and 425 men, working two 7½-hr. shifts, are employed by the grading contractor. The project is under the general supervision of Mr. Perkins. J. A. Bunjer, assistant chief engineer, is in charge of the field work, and R. E. Denham is project engineer for Morrison-Knudsen.

A 180-in. multi-plate culvert, encased in concrete, installed to handle the runoff of Sand creek. The fill will be 112 ft. high.



Trend toward concentration of the harvest-shipping season created by the combine may be converted by the use of a *big* country elevator.

Northwestern Wheat Harvest Passes Peak

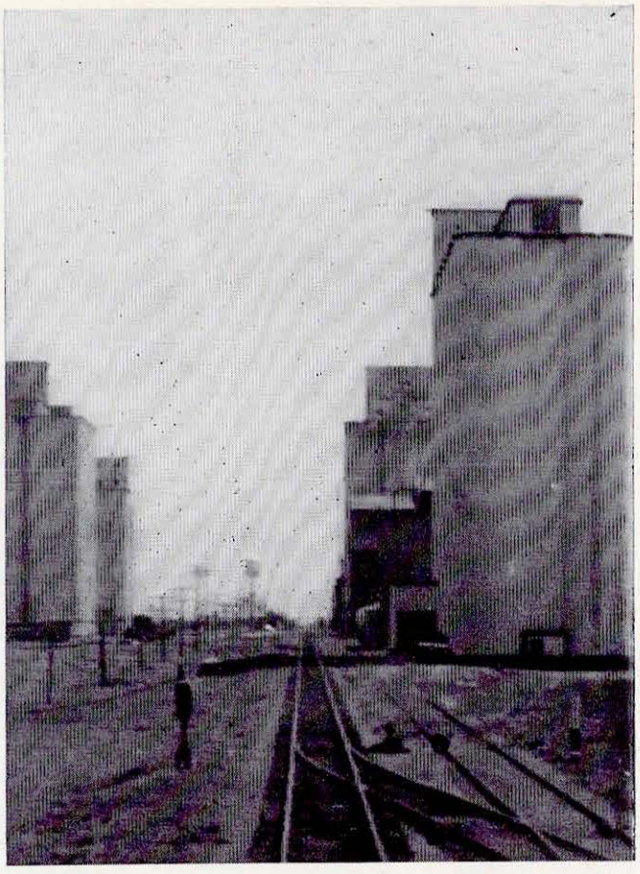
Railroads relieved of compliance with Special Car Order No. 85 September 1 —New type large country elevators may soon make grain rush ancient history

A month ago the wheat harvest was beginning in the northwestern states, Minnesota, Montana and the Dakotas, where the spring wheat was being cut and shipped to the head of the lakes, the Twin Cities, etc. (*Railway Age*, August 4, page 88). Now the harvest in that area is, in the main, completed, the peak having been reached about August 11, when there were 5,811 cars on hand at terminals and none standing out in yards beyond the terminals. (No cars were held out until the 13th, when 450 were held short of terminals.) On August 18 dumpings at elevators reached their peak when 856 cars were dumped. As a result of this peak having been passed, those portions of Special Car Order No. 85 of the Car Service Division, Association of American Railroads, still in effect, were rescinded effective September 1. Car Service Rules now are in full operation again.

As in the Southwest earlier this year the wheat harvest has been handled with relative ease despite a good sized crop. To date there have been relatively few blocked elevators, with the August 18 figure of 295 the highest for the year in the Northwest. (This is only 5.35 per cent of the elevators served by the granger roads in that area.) In 1951 blocked elevators on August 18 totaled 665, more than double the number "plugged" this year. Taking into account the few blocked elevators and the small amount of wheat which received ground storage it is apparent that a generally adequate supply of cars was on hand to take care of the crop. At the same time, only 162,000 bushels of wheat were on the ground on August 18, compared with 278,000 bushels in 1951 on that date.

The first article of this series of reports on the seasonal grain movements (June 2, page 73) included a table showing how the railroads had moved the box car supply around to handle the 1951 harvest. The table accompanying this article shows the same thing happening this year. However, due probably to the generally better car supply this year, plus of course the generally ahead-of-schedule harvest of 1952, the roads in the Northwest had a car supply equal to 100 per cent of their ownership of plain box cars fully a month ahead of the 1951 schedule. The GN, NP and others did not get 100 per

OLD—The small country elevator—familiar to railroad men everywhere—may soon be a thing of the past.



NEW—The past few years have seen forests of towering storage elevators rising at country grain stations.

cent of their ownership on line until September 1 last year, while August 1, 1952, found them with that supply.

One happening in the railroad world which did not affect car supply but did tend to give the northwestern roads additional traffic just at the time the wheat harvest was getting under way, was the California earthquake which blocked the Southern Pacific's Tehachapi tunnels. Inability to get traffic through these tunnels made it necessary to route rough box cars destined to the Pacific Northwest for the lumber loading, normally heavy at this time of the year, over the northwestern roads through the Portland gateway rather than via the route farther south. In spite of this departure from the normal traffic flow, the grain crop in the Northwest was moved without much distress or difficulty.

Big Changes Made

Big changes in the practices used in storing and marketing of grains have been taking place quietly during the past three years in the vastness of the Midwest "grain belt." And these changes, if they continue, may result in an end to the railroads' annual peak harvest grain rush—long a fixture in American railroading.

The significant change lies in the number, size and capacity of the country grain elevators. These have always been relatively small, with the result that the harvest had to be rushed into large storage elevators in primary and secondary marketing centers at the time of harvest. The country elevators have served as collecting points whence streams of loaded railroad cars were dispatched for distant markets until the harvest was all

PLAIN BOX CARS ON LINE AND PERCENTAGE OF OWNERSHIP

	June 1		July 1		July 15		August 1	
	On Line	Per Cent	On Line	Per Cent	On Line	Per Cent	On Line	Per Cent
Northwest*	98,616	93.74	98,301	93.94	100,636	96.19	107,722	103.4
Southwest†	141,157	103.42	151,071	110.53	146,439	107.14	141,142	103.1

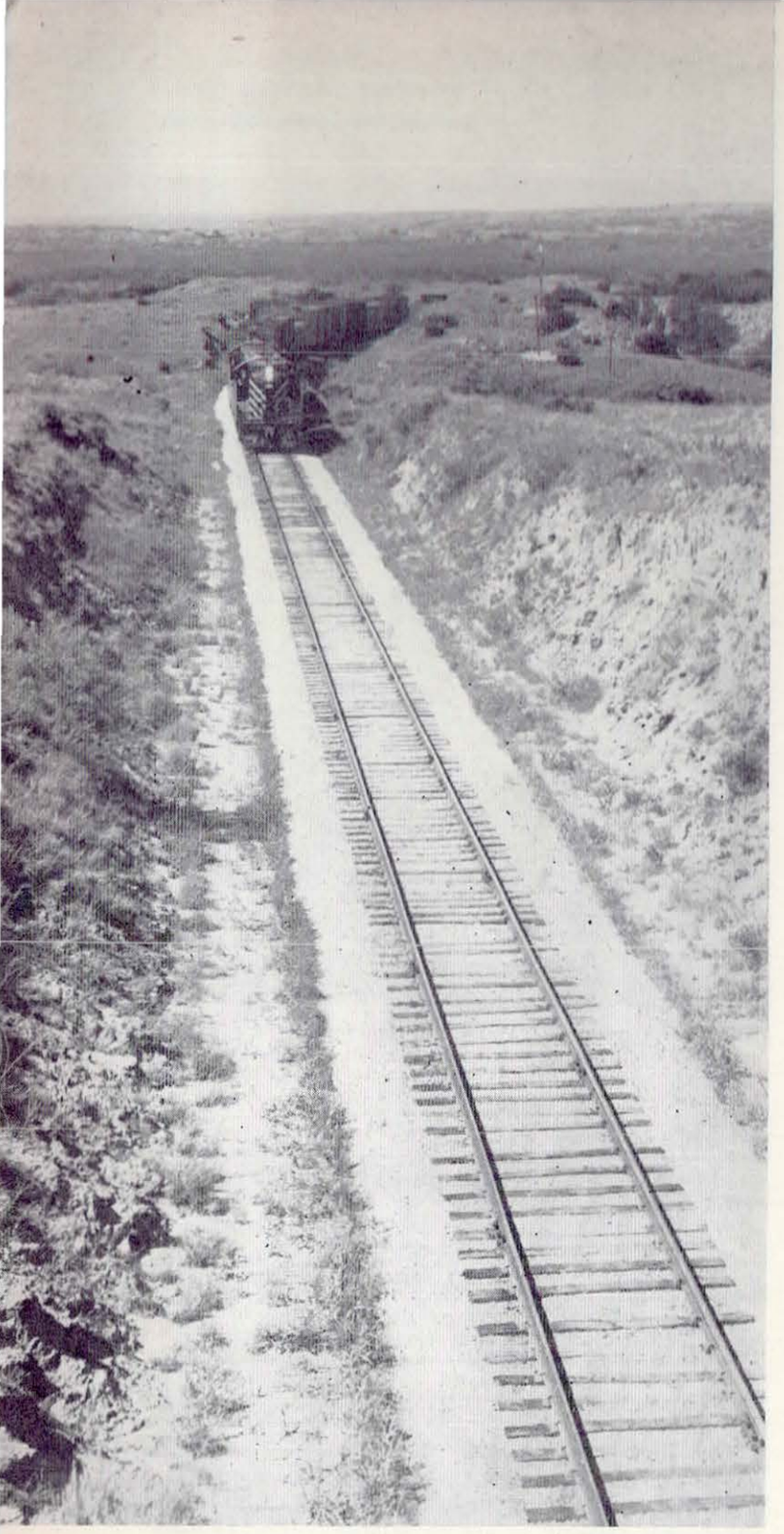
*Includes: C&NW; CSPM&O; CMSP&P; GN; M&SL; NP; and Soo.
†Includes: AT&SF; CB&Q; CRI&P; FW&D; UP; MKT; MP; and SLSF.

in. Then, the "rush" disappeared—like mist in the morning sun.

But, in the recent past, tremendous, million-bushel elevators have been built at country stations to take the place of the old country elevator. The new facilities have the storage capacity to absorb a large portion of each year's harvest—obviating the necessity for most of the "rush" to market storage centers.

Shippers advisory boards in the grain belt are forecasting a 10 to 14 per cent drop in grain carloadings this year in the face of predictions of an unusually good crop. Undoubtedly a large part of this drop can be accounted for by the rapidly increasing storage capacity of the modern huge "country elevators."

As this country storage capacity increases, the grain movement undoubtedly will spread out more evenly over the entire year, with the grain moving out of the country storage elevators only as it is needed in consuming areas. From the railroad viewpoint this should be a highly satisfactory development—though the metamorphosis will undoubtedly take years to complete—in that it will make possible more efficient use of men and equipment.



The QA&P is a heavy-duty line in excellent condition to handle the heaviest loads. Heavier rail has been laid in all main track, and the entire line reballasted.

Though small, this road is

Making Sales Efforts Pay

How the QA&P combines good service, hard selling and advertising to promote traffic—May build 50-mile extension

An eight-fold increase in the volume of transcontinental "overhead" traffic moving via the Quanah, Acme & Pacific in the 12-year period 1940-1951 is evidence that this road's sales promotion policy has "paid off." This 120-mile subsidiary line, with limited sources of on-line traffic, has had to "root, hog, or die." That its sales efforts, conducted under a number of handicaps—not the least of which is the limited revenue it receives as its division of "overhead" movements—have produced results is testified by the records.

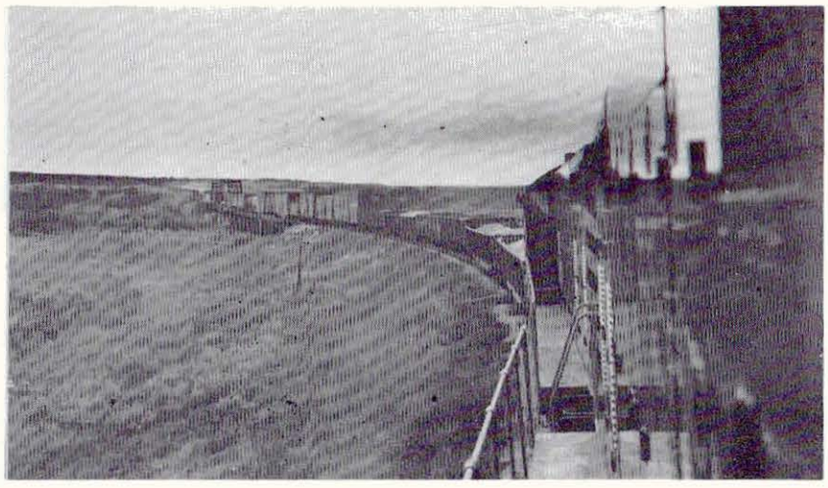
Faced with heavy losses of on-line traffic to trucks in the early thirties which drastically reduced earnings, this road was literally compelled to seek other sources of revenue to maintain its existence. A survey of through service possibilities appeared highly promising in view of its geographical location making possible a short transcontinental route between St. Louis and Los Angeles. Subsequently, a program was launched to secure transcontinental and other overhead traffic to replace the on-line traffic lost to the trucks.

Good Service

Although the QA&P began its overhead traffic program in mid-1938 with 3,162 overhead carloads handled in that year, it was not until 1940 that the program commenced to produce real results. Since 1940 the overhead traffic has substantially increased each year in the face of the most intense competition.

Part of the Quanah's formula for success is consistently good service. As the smallest part of a transcontinental route, the QA&P recognizes that shippers usually evaluate interline routes on their actual overall performance—not by the performance of any single participating carrier. Quin Baker, president of the road, makes much, therefore, of the cooperation of the participating carriers in building and maintaining what he claims is a consistently high level of performance.

As a wholly independent subsidiary of the St. Louis-San Francisco, and with a close working arrangement



The QA&P offers a favorable route into the West Texas Staked Plains of relatively easy grades and low curvature. Here the westbound "Flash" climbs from the Pease river through dry, barren country on its way to the Staked Plains.

The Quanah serves a large plaster and plasterboard plant of the Certainteed Products Corporation at Acme. This is the largest industry on the line. Cattle, cotton, grain and other agricultural products are locally originated in fair amounts.

with the Santa Fe system, the Quanah is able to advertise a "two-system transcontinental route" reaching from Birmingham, St. Louis, and Kansas City through to the Pacific Coast. It claims that it can maintain an uninterrupted flow of traffic because this route avoids a number of major terminals.

The Quanah "Flash"—Nos. 30 and 37—is in effect a pair of through trains between Floydada, Texas, and St. Louis, operating on expedited schedules all the way. One or more sections of the "Flash" are operated daily in each direction. Between Floydada and the Pacific Coast the cars are moved on regular Santa Fe "Red Ball" schedules. The east and westbound "Flash" operate on coordinated schedules with the Santa Fe so that the Santa Fe locomotive and crew which bring the eastbound train into Floydada can leave less than an hour later with the train destined for the West. The westbound Quanah diesels meet the eastbound Santa Fe train in Floydada and can quickly pick up their train and be on their way.

Inasmuch as very little local traffic is handled at Floydada—either on the Santa Fe or the Quanah—facilities are arranged to make the interchange between lines as quick and simple as possible. As evidence of the performance on this route, the QA&P cites New York-Los Angeles merchandise cars moving on this route and consistently making sixth day arrivals in Los Angeles.

In common with most other transcontinental routes, the Quanah route recently shortened both eastbound and westbound transcontinental schedules by one day. Westbound merchandise traffic to Los Angeles from New York and similar East Coast cities is accorded sixth day arrival for seventh day placement; from Birmingham, the new service provides for fifth day arrival for sixth day placement; from Memphis, St. Louis and Kansas City, fourth day arrival for fifth day placement. Eastbound schedules are substantially the same. The new daily schedule provides for departure from St. Louis at 6:30 p.m. on Wednesday, for example, delivery to the Santa Fe at Floydada by the QA&P "Flash" at 5 a.m. on Friday, and arrival in Los Angeles at 9 p.m. on Sunday for Monday's placement.

To the east, track connection is made with the Frisco at Red River. However, under a joint arrangement Frisco crews operate into and out of Quanah.

Faster Schedules

The QA&P is completely dieselized, and maintains a joint diesel power pool with the Frisco between Floydada and Tulsa, Okla., so that the "Flash" operates through Quanah without the necessity of changing out engines. Inasmuch as the "Flash" does not handle local traffic nor do intermediate work, interchange cars for handling at Quanah are blocked at the rear of the train where they can quickly be switched out when the caboose is being changed. As a result, the QA&P claims that the "Flash" frequently leaves Quanah less than an hour after its arrival. The QA&P also boasts of a consistently good record of on-time performance for this train.

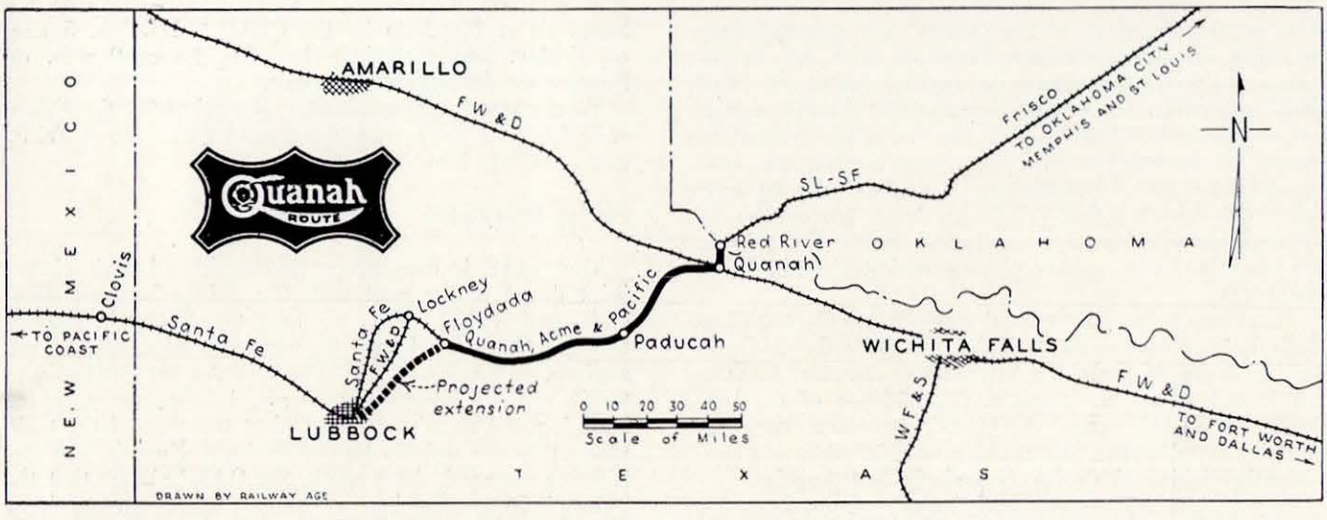
A joint power pool maintained with the Frisco enables trains to operate through between Floydada, Tex., and Tulsa, Okla., without change of engines.

In addition to the "Flash," the Quanah operates local train service between Quanah and Floydada, handling intermediate cars, doing all local road switching, and all switching at Floydada.

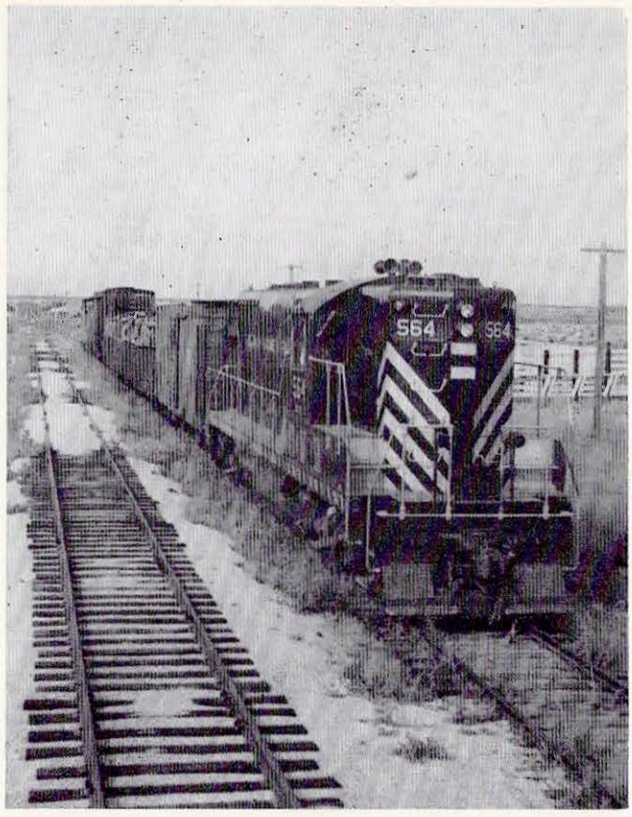
Besides participating in several open transcontinental routes, the Quanah offers a through route between St. Louis, Kansas City, Memphis, and points east, and Wichita Falls, Abilene, Amarillo and other points in West Texas. This traffic is handled into Quanah where it is delivered to connecting Fort Worth & Denver trains for continued movement. The QA&P and FW&D contend that this route to and from the West Texas area is not only shorter but considerably faster than any other open route to or from many points in the East.

The growing northwest Texas area centering around Lubbock is likewise served by the Quanah which, in cooperation with the FW&D, offers the shortest, most direct route between Lubbock and the east. The area around Lubbock is growing so fast that the QA&P is currently considering extending its line from Floydada into Lubbock, about 50 miles.

Backing the Quanah's promise of consistently good



The original objective of the Quanah's builder was El Paso. The line has not completely abandoned the idea of extending its track nearer that goal. Consideration is now being given to an extension to Lubbock.



A daily local handles intermediate traffic and switching, enabling the "Flash" to move non-stop over the QA&P.

performance are the carefully directed, intensive sales efforts of the traffic department. Quanah traffic men have but a few things to sell; so they concentrate on selling them well.

The line's 19 sales representatives work assigned territories out of 11 sales offices, located in Chicago, Atlanta, Cincinnati, Detroit, Los Angeles, New York, Pittsburgh, San Francisco, Quanah, Tulsa and Washington, D. C.

Representatives are assigned specific territories which they are expected to cover constantly and thoroughly, in conformity with a definite sales program. The home office in Quanah, Tex., maintains close contact with the field men by correspondence, telegraph, telephone and regular visits by W. L. Richardson, the executive vice-president in charge of traffic.

Quanah salesmen are trained to use *service* and *friendship* as their principal method for seeking business. They are expected to sell Quanah service on its own merits,

BIG CHIEF SAWDUST BRIDAL CAR
BIG CHIEF SAY," REALIZE QUANAH "HOT-SHOT" FASTEST TRAIN IN WORLD ... 364 DAYS IN YEAR, CHIEF TAKE SIDING, LET "HOT-SHOT" PASS. BUT, TODAY, BIG CHIEF HE GET MARRIED !! -X@!&"HOT SHOT" TAKE SIDING"!
Quanah

The cartoons incorporated in the road's monthly traffic letter have virtually become a company trade mark.

using their ability as salesmen and their willingness to help out as friends in solving unusual and difficult transportation problems for present or potential shippers.

The thoroughness with which most QA&P men cover their territories has become something of a conversation piece among the railroad traffic fraternity. There may be a simple explanation: These men—though their task is made considerably easier by the simplicity of what they have to sell—are expected to produce. They are not allowed to "get away" with alibis to cover up lost or missed sales, says the Quanah.

The Quanah sales force is proud of its claim that all of its business was won by consistently good service, and simple, straight-forward selling.

Automatic Tracing

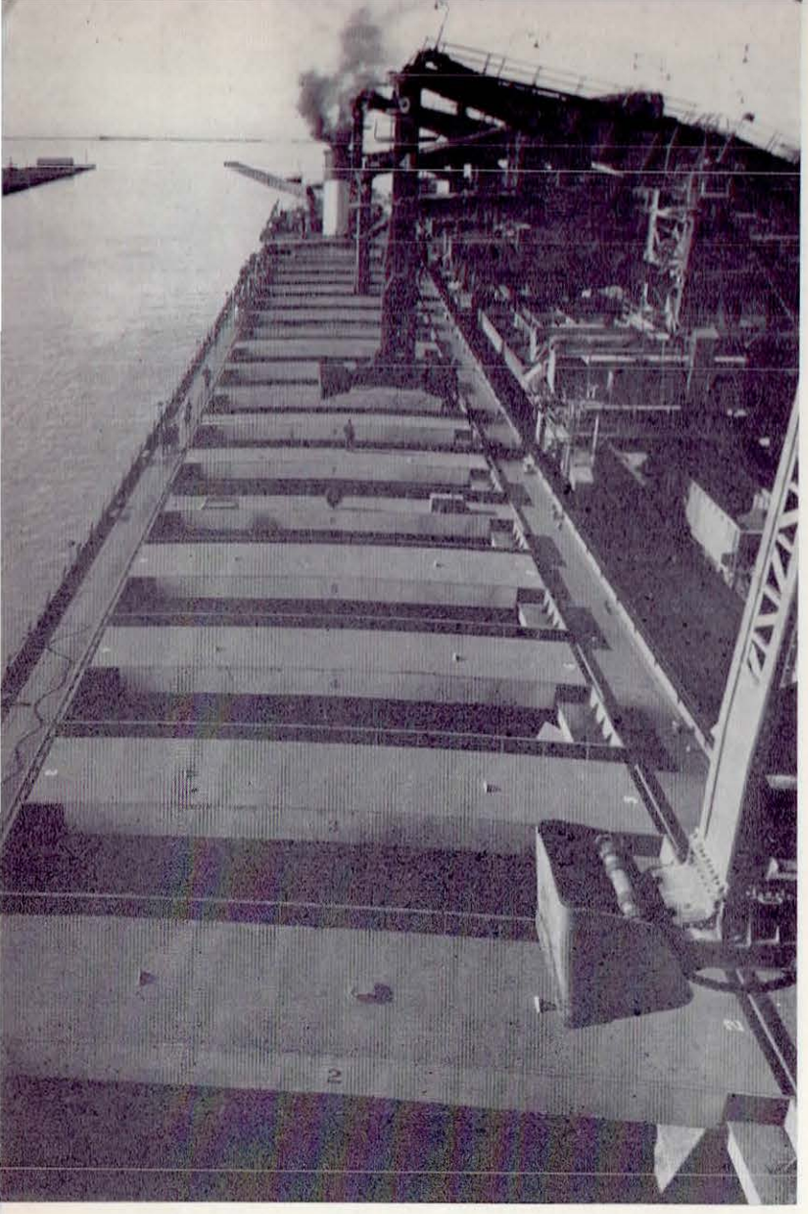
An "extra" which is used to retain present business and attract new is an "automatic tracing" service accorded to every overhead car moving via the QA&P. This consists of a picture postcard—there are numerous different views of the railroad—with a passing record on the back, which is mailed to every consignee for cars routed via Floydada and Santa Fe routes. All QA&P traffic offices throughout the country are furnished passing reports by telegraph, telephone or air mail for the convenience of patrons desiring immediate information. Traffic moving via Fort Worth & Denver routes is reported on "advance 23" reports telegraphed from Springfield, Mo., to Quanah in advance of the train. The QA&P transmits this information to the FW&D which notifies consignees of the passing date from Frisco stations, anticipated arrival at Quanah, and probable arrival time at destination. Westbound cars moving through Floydada are accorded the Santa Fe's regular "Red Ball" advance notification.

As further support for its field forces, in 1941 the traffic department started a direct mail campaign designed to pave the way for its field representatives by presenting the road's story in "black and white." The original pieces were mimeographed letters mailed to somewhat fewer than 900 names. But their fame—and the mailing list—has rapidly grown. Starting in 1949 a distinctive cartoon—which has grown almost to be a QA&P trademark—was added to the offset letter. These cartoons have since been featured in most of the road's mail and magazine advertising, and were the winner of a first prize in a recent St. Louis Graphic Arts Exhibition. The management believes that this program has been most successful and has helped make the road known where it was unknown before.

Locally Operated

An unusual feature of the QA&P is that it is one of the few railroads in the country which still has one of the original founders and builders—Charles H. Sommer—active in its management. Mr. Sommer was in charge of constructing the QA&P from Acme (about 5 miles west of Quanah) to Paducah (1909) and Floydada (1928). He is now a member of the board, having retired as president last January 1.

Although the railroad is owned outright by the Frisco, it has remained a highly independent organization—far more so than is required to meet the Texas law requiring "local management." The company has its own independent organization, all the way down. This independence has actually worked to the benefit of the Frisco, because most of the traffic which the Quanah can generate moves part way, at least, over the Frisco.



Thirty-five tons of iron ore at one bite is handled by the buckets of these Hulett machines at the B&LE docks.

How the B&LE Has Simplified Waybilling

Form with repetitive information preprinted is the basis, allowing all information to be written on one line by clerk

A simplified waybilling technique for highly repetitive traffic, devised by the Bessemer & Lake Erie, not only is bringing economies to the railroad in reduced waybilling and accounting expense but is helping to provide better service and is decreasing terminal expenses of carriers involved in interline movements of such traffic. These are the results of the use of waybills preprinted with much of the repetitive data normally written on them, and a Commercial Controls Corporation Model FC "Flexowriter" which punches a tape at the same time the waybill is produced. The tape may be used in conjunction with the Flexowriter or a tape-to-card punch to reproduce on another document (including a punch card) the information it carries.

A great deal of iron ore moves from the Conneaut, Ohio, docks of the B&LE to the National Tube Company at McKeesport, Pa., just outside Pittsburgh. The B&LE turns this ore over to its sister road, the Union, at North Bessemer, Pa. The Union in turn delivers the loaded cars either to the Pennsylvania or the Pittsburgh & Lake Erie for delivery to the Tube company. The movement of traffic between these roads and the Union is very heavy, and sometimes interchange tracks become "plugged." However, experience has shown that seldom are the interchange tracks on both roads full at the same time.

If the routing on each carload of ore specified the delivering carrier, it would be necessary for the Union to hold cars out of the interchange, thus plugging its intensively used yards. Under the present system, through the use of the simplified waybill and the cooperation of the consignee in leaving open the routing from North Bessemer to McKeesport, this situation no longer applies. Thus when the Union gets the cars it delivers them to the road whose interchange track is not full. On the copies of the waybill the initials of the terminating carrier are placed very quickly by the B&LE agent at North Bessemer, who punches each copy of the waybill with those letters.

Key Strokes Cut

To understand how the Bessemer can handle traffic in this manner and at the same time keep tight accounting controls it is necessary first to become acquainted with the waybilling process before going into the accounting phase of the work.

Ore received at Conneaut is unloaded from ore boats and transferred to cars by Hulett unloaders. As ore goes from the buckets of the Hulett machines to the cars it is automatically weighed. Once a car is loaded, the accumulated weight is transferred automatically to a scale ticket which was prepared for each car before it was shoved to the ore loading track. These scale tickets are returned to track level by a conveyor tube, where they are picked up and delivered to the billing clerk.

When scale tickets are received by bill clerks, the latter make out waybills for each car loaded at the docks. On the simplified bills used by the B&LE this is relatively simple, compared with the procedure the bill clerks ordinarily employ. Billing clerks use an average of only about 32 key strokes on the machine to make out the bill. This eliminates 80 per cent or more of the key strokes necessary in making out a standard waybill on such traffic. On this waybill repetitive data are preprinted while variable data are written in by the bill clerk. (Repetitive data include shipper; origin and destination; consignee; full route; commodity; and rate, although the rate is *not* printed on the bill. Variable data include shipping date; waybill number; car initial and number; gross weight; tare weight; net weight; and freight charges.)

Waybills are made up on the Flexowriter, equipped with pin feed platen. The waybill itself is a five-part form of the so-called side "zip-set" type, with prestuffed one-time carbons. In typing information on the waybill the clerk writes only a few details, and they are *all on one line.*

All five parts of the waybill are forwarded with the car when it moves. The first or original copy becomes the record copy for the destination agent, while the next

ORIGINAL

BESSEMER AND LAKE ERIE RAILROAD COMPANY

REVENUE FREIGHT WAYBILL

WAYBILL NUMBER 2086

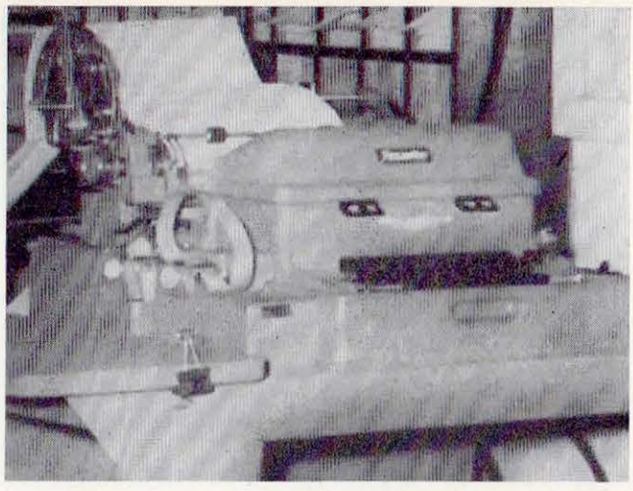
TO McKeesport, Pa.
ROUTE B&LE URR (P&LE or PRR)
CONSIGNEE U. S. Steel Co.
FROM Conneaut, Ohio
SHIPPER Pittsburgh Steamship Division, U. S. S. Co.
COMMODITY Iron Ore (309)

ROUTE NUMBER	REPORT NUMBER	VESSEL	GRADE	WAYBILL MO.	WAYBILL DAY	WAYBILL NUMBER	NET HUNDREDWEIGHT	TONNAGE GROSS	TONNAGE NET	CAR INITIAL & NUMBER
								VOID		

FORM NO. 714-A-1433

The open-route waybill of the B&LE. Actual size is 8½ in. by 3 in. Quintuplicate form is produced by Standard Register Company.

Tape cut by punch on Flexowriter. When used to actuate the machine in making shipping statements the machine prints at a rate of about 570 characters per minute.



The Flexowriter is equipped with tape reader and tape punch. The B&LE also uses the Standard Register line finder.

PRR #5 - 8-12-52

SHIPPING STATEMENT 14/705 8/11/52 PAGE 6 OF 6

TO McKEESPORT, PA. VIA URR & PRR OR P&LE CONSIGNEE NATL TUBE DIV., U.S. STEEL CO.

FROM CONNEAUT, OHIO SHIPPER PITTSBURGH STEAMSHIP DIV. U. S. STEEL CO. COMMODITY IRON ORE (309)

	ROUTE NO.	REPORT NO.	VESSEL	GRADE	WAYBILL MO.	WAYBILL DAY	WAYBILL NUMBER	NET CWT.	TONNAGE GROSS	TONNAGE NET	CAR INITIAL & NUMBER	PHIPPS
1	14	705	730	16	8	11	1833	1533	104	77	BLE 66324	AUG 1 2 1952
2	14	705	730	16	8	11	1834	1263	83	63	ERIE26967	AUG 1 2 1952
3	14	705	730	16	8	11	1835	1572	105	79	BLE 68333	AUG 1 2 1952
4	14	705	730	16	8	11	1836	1584	103	79	BLE 67805	AUG 1 2 1952
5	14	705	730	16	8	11	1837	1534	105	77	BLE 60192	AUG 1 2 1952
6	14	705	730	16	8	11	1838	1594	104	80	BLE 68882	AUG 1 2 1952
7	14	705	730	16	8	11	1839	1607	104	80	BLE 69726	AUG 1 2 1952
8	14	705	730	16	8	11	1840	1602	104	80	BLE 69276	
9	14	705	730	16	8	11	1841	1610	104	81	URR 4193	AUG 1 2 1952
10	14	705	730	16	8	11	1842	1570	105	79	BLE 67229	AUG 1 2 1952
11	14	-	730	-	8	11	-	1200	-	65	P&O 62[illegible]	AUG 1 2 1952

Typical shipping statement forwarded by agent at Conneaut to North Bessemer. First copy is made on hectograph master and as many copies as needed are then produced.

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SHIPPING STATEMENT 1421-5 August 12, 1952 Page 2 of 2

TO McKEESPORT, PA. VIA B & LE - URR - PRR CONSIGNEE NATIONAL TUBE DIVISION, U.S.S. CO.

FROM CONNEAUT, OHIO SHIPPER PITTSBURGH STEAMSHIP DIV. U. S. STEEL CO. COMMODITY IRON ORE(309)

	ROUTE	REPORT	VESSEL	GRADE	WAYBILL MO.	WAYBILL DAY	WAYBILL NUMBER	HUNDREDWEIGHT	TONNAGE GROSS	TONNAGE NET	CAR INITIAL & NUMBER
1	14	705	730	16	8	11	1770	1650			BLE 50126
2	14	705	730	16	8	11	1819	1610			BLE 69896
3	14	705	730	16	8	11	1826	1583			BLE 67446
4	14	705	730	16	8	11	1839	1607			BLE 69726
5	14	705	730	16	8	11	1856	1614			BLE 69136
6	14	705	730	16	8	11	1823	1523			BLE 68687
7	14	705	730	16	8	11	1834	1263			ERIE 26967
8	14	705	730	16	8	11	1695	1527			BLE 66068
9	14	705	730	16	8	11	1776	1520			BLE 60398
10	14	705	730	16	8	11	1828	1602			BLE 66528
11	14	705	730	16	8	11	1846	1590			BLE 69558
12	14	705	730	16	8	11	1849	1670			BLE 50558
13	14	705	730	16	8	11	1853	1271			ERIE 27738
14	14	705	730	16	8	11	1751	1466			BLE 62359
15	14	705	730	16	8	11	1761	1532			BLE 65269
16	14	705	730	16	8	11	1763	1550			BLE 75579
17	14	705	730	16	8	11	1814	1602			BLE 66139
18	14	705	730	16	8	11	1827	1570			BLE 69329
19	14	705	730	16	8	11	1842	1570			BLE 67229
20	14	705	730	16	8	11	1852	1540			BLE 67899
21	14	705	730	16	8	11	1760	1605			URR 4300
22	14	705	730	16	8	11	1773	1505			URR 3072

Typical shipping statement forwarded to destination road by the B&LE accounting department. Statement prepared by I.B.M. machines.

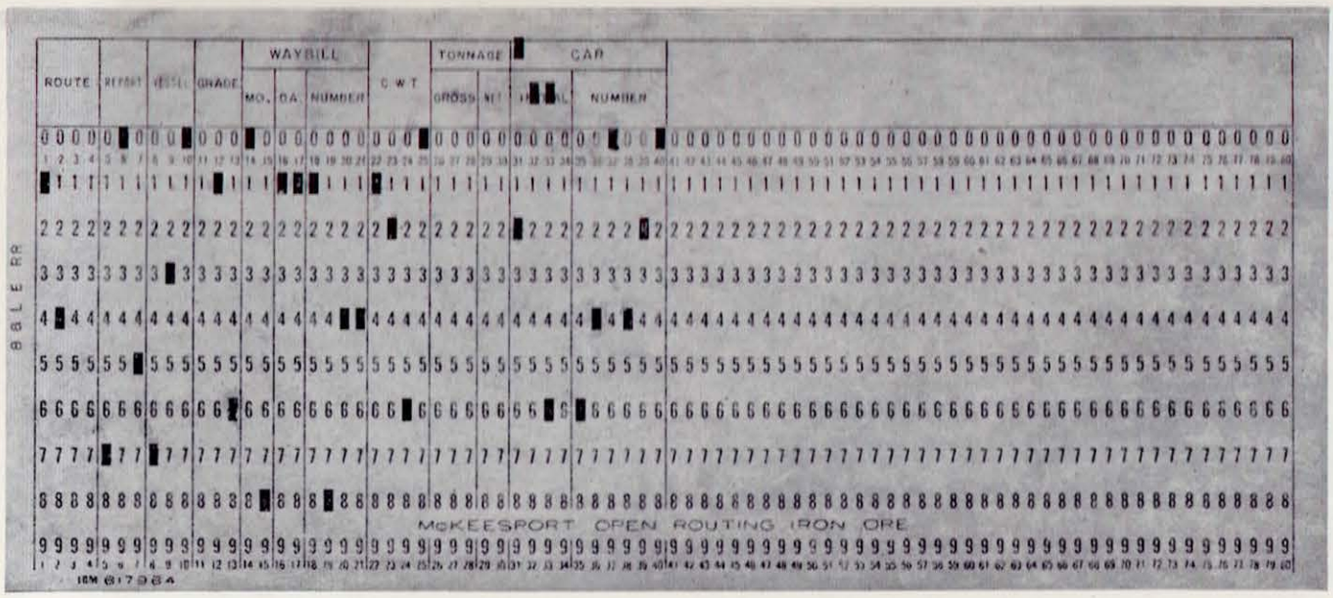
copy becomes the notice of constructive placement which is sent to the consignee. Copy three goes to the demurrage clerk at destination, from which he sets up his demurrage records. Copies four and five are delivered to the consignee along with the car.

The actual process of making out the waybill on the Flexowriter is interesting. The operator's first job is to prepare a "circling tape." On this he punches the route number, report (shipping statement) number, vessel code number and grade code, as well as the waybill month and day. He does this with proper skip codes so that the imprinting will fall properly within the writing blocks on the waybill form. After punching in the day, he punches in enough space codes to bring the machine over to the proper point for the first writing position of the four-digit waybill number. He punches these data three times into a single tape, inserting a stop code after each such performance, and then removes the tape from the perforator and glues in into a circle.

When the circling tape has been placed in the reading mechanism of the Flexowriter the waybilling operation is ready to begin. The platen of the Flexowriter is turned to the proper writing position for the first digit of the route number on the next available waybill. The operator next depresses the "Read on" switch so that the machine automatically writes 23 key-strokes (taking the information from the circle tape), nearly half the line for the individual car. The clerk copies next the waybill number which is preprinted on the form. This is necessary in order for the waybill number to be included on the tape. The operator copies net hundredweight, gross and net tonnage, car initial and number from the scale ticket. He then depresses the carriage return key, which in typical typewriter fashion returns the carriage and at the same time advances the form 1/6 in., coding the tape for this function.

Standard Register Company's line finders, attached to the Flexowriters, then make it possible for the operator, by a mere pull on the handle, to put the next waybill in the writing position. Each succeeding waybill is produced in the same manner. As each waybill is produced the information contained on it is cut into a tape, which is used later to produce the shipping statement.

To make the shipping statement, the tape cut when the waybills were made out is merely run through the Flexowriter. Only one line of writing is necessary at the top of the statement before the tape is run through the reading unit of the machine, which activates the keys which in turn do the printing. Data from 65 waybills can be printed on each ore shipping statement. A stop code is cut into the tape so that once the machine has printed the information from the proper number of bills it automatically stops. Shipping statements are made in as many copies as necessary, for sending to all roads



Punch card used to make out shipping statement for final road haul carrier of open-route traffic.

The Conneaut yard of the Bessemer handles a lot of coal and ore.

involved in the movement, to the consignee, and the destination agent.

On arrival at North Bessemer cars are placed on Union tracks and the waybills are turned over to the Union. When a given string of cars is to go to the Pennsylvania, the waybill sets to match are brought to the B&LE agent, who uses a Cummins perforator to punch through each of the five copies of the waybill set the initials PRR and the date. (This is an unusual application of a machine made for canceling checks.) At the time of perforating the waybills, the Bessemer's agent makes a record of the individual cars moved, indicating whether via P&LE or PRR. The Bessemer agent's report to the accounting department is simple rubber stamping of the date opposite the numbers of cars, the cars which move on that date via the road whose initials are penciled at the top of the form.

From Conneaut, meanwhile, the Flexowriter tape has been forwarded to the accounting department, where punched cards are prepared automatically from it. The International Business Machine Company's Model 043 tape-to-card punch does this work. The B&LE intentionally omits punching gross and net tonnage into the card even though these data are coded into the tape. There is then in Pittsburgh a file of punched cards, one representing each car forwarded out of Conneaut on open routing. From this file the accounting department selects the cards for cars reported by the agent at North Bessemer as having moved on a given date via one of the two possible road haul carriers beyond the Union.

The cards are run through an I.B.M. Model 402 electric accounting machine to prepare each day's shipping statement. When the tabulator has completed its listing, it prints total weight for the cars listed. The filling out of the forms is completed in a typewriter on two upper lines on each page of the statement. The foot of the last page of the shipping statement shows total cars, total weight and through freight charges on those cars. Copies of this report are mailed to the destination agent of the carrier involved, the Pennsylvania in the case illustrated.

Thus it may be said that the B&LE has two "blanket waybills," the one prepared at Conneaut on a forwarded basis via open routing, sufficing, among other purposes, for collection of prepaid freight charges. In the second case, the shipping statement prepared by the tabulator is specific as to delivering carrier on the date of his receipt of the cars from the Union. It is the basis of all the receiving carriers' records and accounting including the matter of interline settlement of freight charges.

A FAIR EXCHANGE? W. F. Custer (right), designer and creator of the "Fast Frater," shows H. R. Sampson, vice-president traffic of the C&EI, the 12 regional tariffs from which the single 100-page booklet held by Mr. Sampson was condensed.

Application of New "28300" Class Rates Simplified

Obtaining and checking uniform-classification class rates, as contained in the new tariffs, issued to conform to I.C.C. orders in the No. 28300 and 28310 proceedings, is vastly simplified—at a saving in time, temper and the probability of error—by the Chicago & Eastern Illinois in its newest tariff short-cut publication "Fast Frater." This new file-size booklet digests into less than 100 pages the thousands of pages of rate material contained in the twelve individual territory tariffs affecting major cities and towns. It contains all "28300" and "28310" class rates between 3,000 headline points and more than 50,000 sideline points.

Published on the heels of the effective date of the new tariffs this booklet was designed along the same simplified line as the 84-page "Freight Rate Streamliner" (*Railway Age*, December 2, 1950) which makes possible the determination of a fully increased Ex Parte 162, 166, 168 and 175 rate without resorting to the actual increase tariffs. The "Freight Rate Streamliner" has proved so helpful to shippers and railroad rate people alike that, since its publication in the fall of 1950 approximately 25,000 copies have been distributed. Distribution of the new booklet is expected to equal or exceed that number.

Both publications were designed and created by William F. Custer, assistant general freight agent of the C&EI. Mr. Custer does not look upon his work as a substitute for tariff simplification. The railroads' Tariff Research Group in Washington is approaching the problem of tariff simplification "the way it should be approached —from the roots," Mr. Custer has frequently stated. "I an confident that they will successfully overcome the basic deficiencies of our present tariff system, and rapidly furnish a new and effective system of tariff publication. These short-cut booklets are no substitute for simplification—they are merely short cuts in the use of existing tariffs."

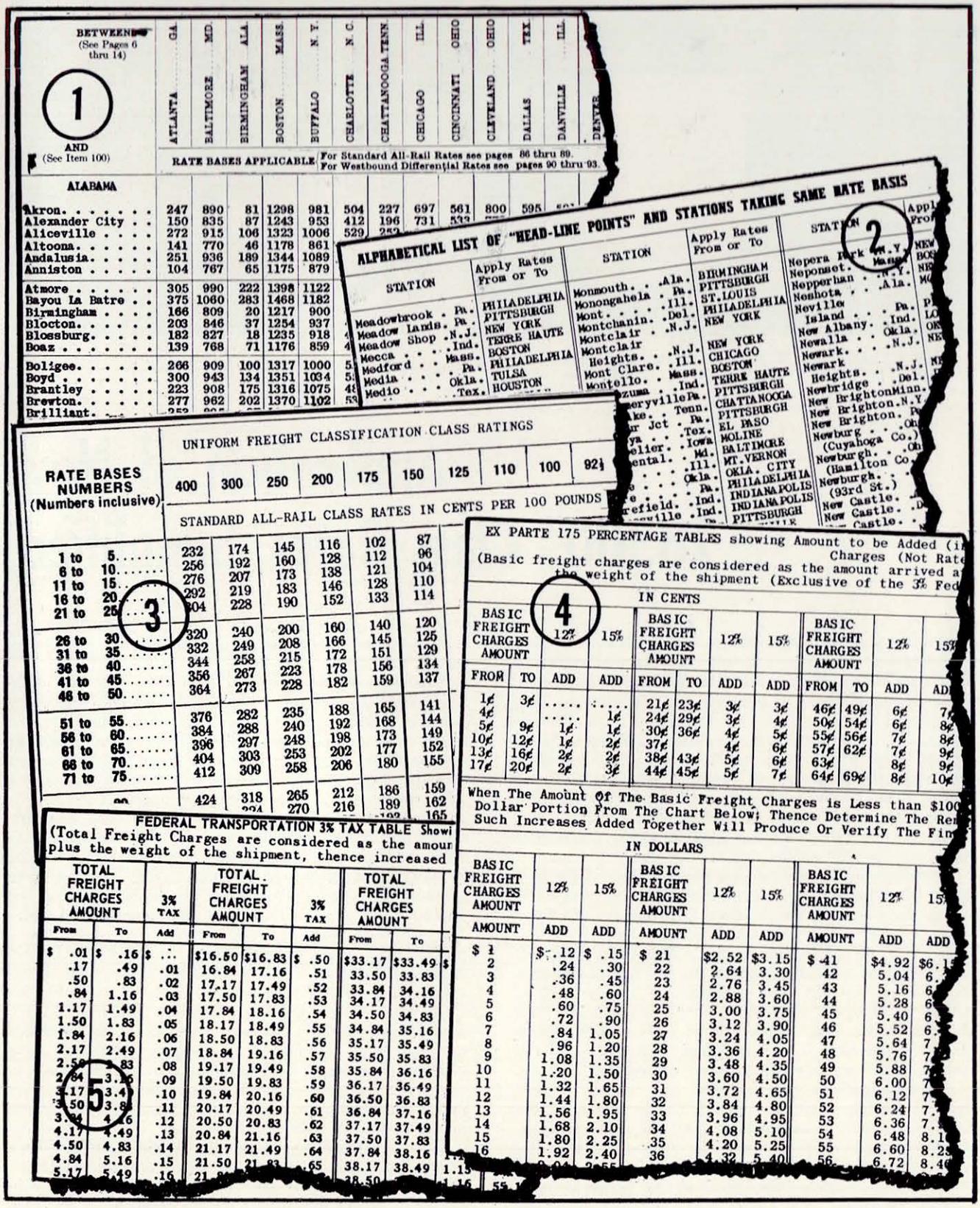
Experienced rate men will appreciate that this relatively small compilation cannot include rates from every possible headline point to every sideline point, nor can it cover all possible exceptions. However, by using 42 key headline points, and grouping other points which take the same rate basis, it has been possible to cover a wide range in a comparatively few pages.

In addition to 70 pages of actual rate base numbers, the "Fast Frater" contains a scale of standard all-rail class rates by rate base numbers, separate scales for the application of westbound differential rates, southwestern short-line mileage rates, percentage tables showing the 12 and 15 per cent Ex Parte 175 rate increases and tables for computing the increased charges, a federal transportation tax table, a brief review of the I.C.C. Docket 28300 and 28310 actions, a chart showing the interstate and intrastate effective dates in all states for Ex Parte 175 interim and final increases and for "28300" first (Appendix 10) and final (Appendix 18) increases and reductions, an outline of comparative rates (using Chicago as a major base point), a comparison chart of the new 28300 first class rate scale with scales of other major rate territories, and a list of C&EI rail connection points and traffic offices.

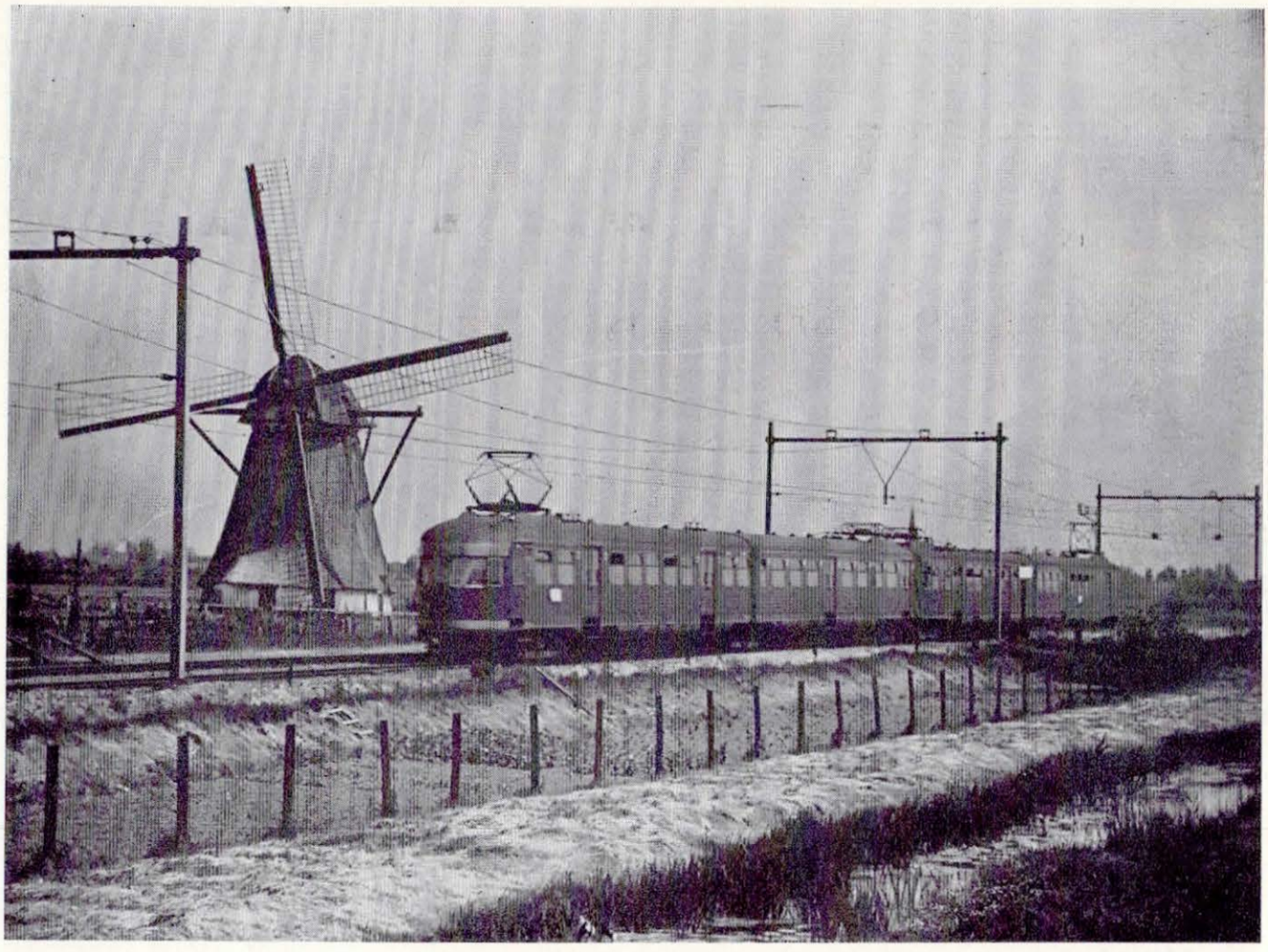
The popularity and wide use of the "Freight Rate Streamliner" has proved to the C&EI the need for more short-cut measures to save time and reduce the probability of errors in figuring freight rates.

The C&EI is preparing and distributing these booklets for their sales and advertising value. Copies are distributed without charge to shippers, transportation schools, traffic clubs and all persons interested in traffic

work, and railroad men. They can be obtained through local sales representatives or from Milo A. Smith, general freight agent, at 332 South Michigan avenue, Chicago 4. Thus the distribution of these short-cut booklets is helping the C&EI to acquaint the shipping public with its sales representatives, services and routes.



The "Fast Frater" contains: (1) applicable rate bases between 42 headline points and 50,000 sideline points, (2) an alphabetical list of 3,000 points taking the same rate basis as the 42 headline key stations, (3) charts of all-rail class rates by rate base numbers, (4) tables for computing Ex Parte 175 freight charge percentage increases, and (5) a 3 per cent federal transportation tax table. The booklet is designed to give the working rate man the tools he needs to improve his work performance and accuracy.



Trolley electric multiple-unit train.

How Holland Has Rebuilt Its Electrification

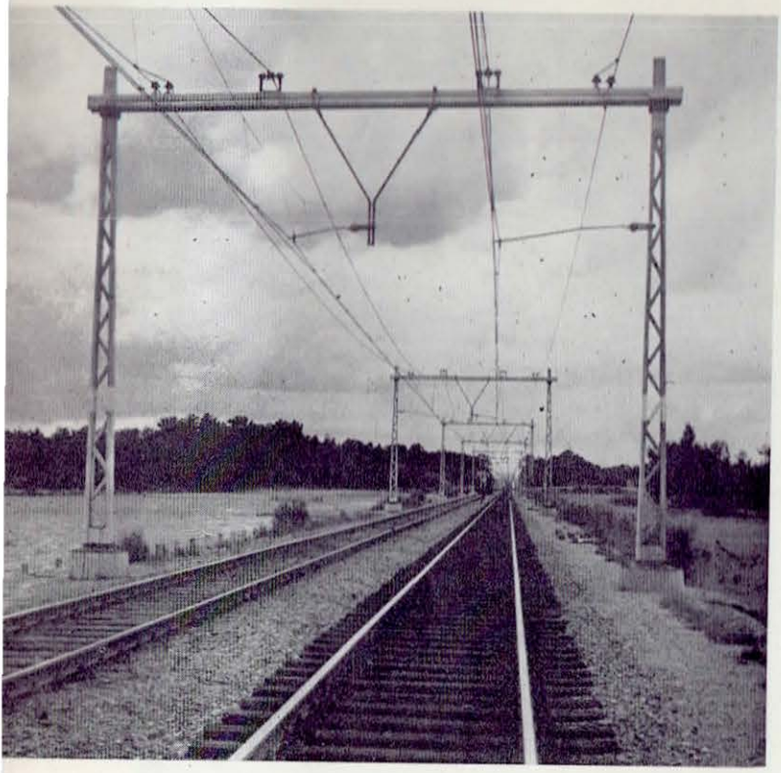
Almost total wartime destruction of the Netherlands railways permitted free selection, but after careful consideration, the original 1,500-volt direct current system was re-established

Electric traction engineers in this country have pretty generally agreed that a high-voltage a.c. contact system is best suited to most of the potential requirements of main-line electrification in this country. That this finding does not apply to all requirements is indicated by the Netherlands' recent choice of a 1,500-volt d.c. system.

Reasons for the choice were explained by A. H. Candee, transportation engineer of Westinghouse Electric Corporation, in a paper presented at the Summer General Meeting of the American Institute of Electrical Engineers, held in Minneapolis June 23-27. Mr. Candee said there has been a galaxy of dissimilar trolley electrifications scattered throughout the world, nearly all of them successful in a way, but reflecting a lack of coordination among the proponents of this type of propulsion. Once having chosen a system, a railroad sometimes finds it expensive to change to another.

Various Factors Involved

The decision of the Netherlands Railways to retain and to extend the 1,500-volt, d.c. system of electrification for their lines and services indicates an appreciation of various factors. Thus, they have balanced the low maintenance expenses of medium-voltage d.c. motorcar and locomotive equipment against a higher installation cost of the distribution network, with close substation spacing (as compared to higher voltage systems), and



Double-track overhead contact system.

find a net economy in their favor. In addition, the line troubles are very much lower with 1,500-volt d.c. impressed upon the overhead network than if higher voltages, 3,000-volt direct or elevated alternating voltage, were employed. They also have reduced their substation and line costs to their practical essentials.

One railroad which chose its system of electrification more than 25 years ago, and which has had an opportunity in recent years to review and change its earlier decision, if desired, is the Netherlands Railways. Trolley electrification of this railroad dates from the year 1908, when the line between Scheveningen and Rotterdam, approximately 15 miles, was operated from a 10,000-volt a.c., 25-cycle overhead trolley line. In 1924, it was decided that a change to the 1,500-volt d.c. system would reduce overhead line troubles and also traction motor problems. By 1927, the original electrification had been converted and electrical services had been extended northward from Rotterdam to Amsterdam and Ijmuiden. Up to the year 1940, when the Netherlands was invaded by the Germans, the network of electrified lines had been expanded gradually.

War Damage and Recovery

No industry in the Netherlands, Mr. Candee said, has suffered as much war damage as did the railways. The Germans, within about eight months, carried out a methodical wrecking of the railway system. When the country was finally freed, there was little left of the railways, for practically everything had been removed to Germany or thoroughly wrecked. Rolling stock was taken, burned, or destroyed; shops were looted completely—not even a wrench or screwdriver was left; copper wire and electric substation equipment were carried away; bridges were wrecked; and tracks were torn up. When the Germans capitulated, the status was:

Per Cent Destroyed or Stolen		Per Cent Destroyed	
Locomotives	84	Stations	18
Passenger cars	94	Signal towers	68
Freight cars	98	Railbed	62
Electric trains	99	Bridges	70
Diesel-electric trains	100		

However, seven years later, by June 1952, the Netherlands Railways was again a smoothly operating, progressive railroad, with an "on-time" record that would be the envy of any American line. Trolley electric motor cars and streamlined trains had been recovered from Germany and rehabilitated or had been salvaged from the wreckage left in the country. Diesel-electric motor cars and trains had been recovered and put into operation condition again; steam locomotives had been returned or used ones bought from the Allied Army surplus; trolley electric locomotives had been purchased or rented; bridges had been repaired, signal equipment reconditioned; stations rebuilt; and many other very surprising reconstructions had been accomplished.

Reselection of the 1,500 Volt D.C. System

Concerning the choice of a new system, Mr. Candee said that after the destruction of the railroad, an excellent opportunity was afforded to start all over with a different power supply system, if desired. A thorough study, however, confirmed the earlier decision to use 1,500-volt d.c. power for trolley lines, this being based on the density of the traffic, the prevalence of large cities and towns in relatively close proximity, and the previously demonstrated low operating costs of the 1,500-volt system. Moreover, such a medium voltage d.c. system makes the operation of trolley electric motorcar trains very practical at a nominal cost for equipment and repairs. Because of the predominance of these trains in the Netherlands, this factor was of considerable weight.

In general, the Netherlands is flat and few important grades are encountered. In the western and northern parts, there are areas surrounded by dykes and usually lying below sea level. In the east, the ground is somewhat higher and is rolling. Sand is encountered almost everywhere, and clay is common. The principal cities lie in the western part of the country but Holland is actually an industrial nation and practically every town has its shops and factories.

Internal commerce of the Netherlands depends upon three basic transport systems: the railroad, the waterways and the highways. The railroad has far from a monopoly in the transport of freight because there is a national system of canals. Actually, there are about 4,800 miles of navigable waterways, nearly 2½ times the railway mileage, some only for small barges, but many for larger vessels. About 340 miles of canals are for the largest vessels of 2,500 tons or larger.

The bulk freight of the Netherlands is generally moved by diesel-engine-driven canal barges. Highway vehicles have not as yet become a serious competitor for the railroad or canals. The division of the internal freight traffic is approximately as follows:

	Tons of Freight, Per Cent	Ton-Miles of Freight Per Cent
By railroad	15	32
By water	39	53
By highway	46	15

The Netherlands Railways does a very brisk passenger business. The railway system handles approximately 160

million passengers per year for 3.9 billion passenger-miles, and requires 24 million passenger-train miles of operation. At the same time, the train-miles in freight service total about 9.3 million. Passenger services account for approximately 58 per cent of the total revenue and freight service for but 38 per cent, the balance being made up by diverse services such as mail and baggage. While most American railroads consider passenger services unprofitable, the Netherlands Railways has an operating ratio of around 74.

Railroad Operation

The character of the Netherlands Railways differs from that of the normal American railroad. Emphasis is placed upon passenger-train services, and schedules must be so arranged that little interference is occasioned by the operation of freight trains. Most of these are moved at night and are off the main line at the time that the heavy pasesnger traffic peaks occur. The result of this, and also of the rigid policing of passenger-train delays, is that the railroad has an enviable "on-time" record.

The Netherlands Railways owns and operates a comprehensive network of lines extending to all parts of the country and serving practically every community in the nation. The heaviest traffic is concentrated in the western central part of this area. The annual report for 1950 showed 1,988 miles of railroad in operation, 1,055 miles of which are of single track and 933 miles of double track. Of these, 507 miles of the double track and 48 miles of the single track are electrified, and work has been progressing rapidly in the extension of this system.

It is expected that a total of aproximately 787 miles will be electrified by the end of 1953. In the end, approximately 42 per cent of the mileage will be trolley electrified, this trackage carrying about 85 per cent of the passenger-miles and 80 per cent of the freight ton-miles. The ultimate use of diesel-electric motor cars or locomotives has been planned for all other lines and for switching services, thus retiring all steam motive power. Right-hand running is standard, the same as in America.

Almost all of the main-line rail is 92.5 lb. per yard, but some heavier rails of 127 lb. are on trial. Rails are T-head with flat bottoms, those for the main lines being clamped to special tie castings which, in turn, are held in place on treated ties by screw fastenings. For yards and sidings, the rails are set on the plates and spiked down.

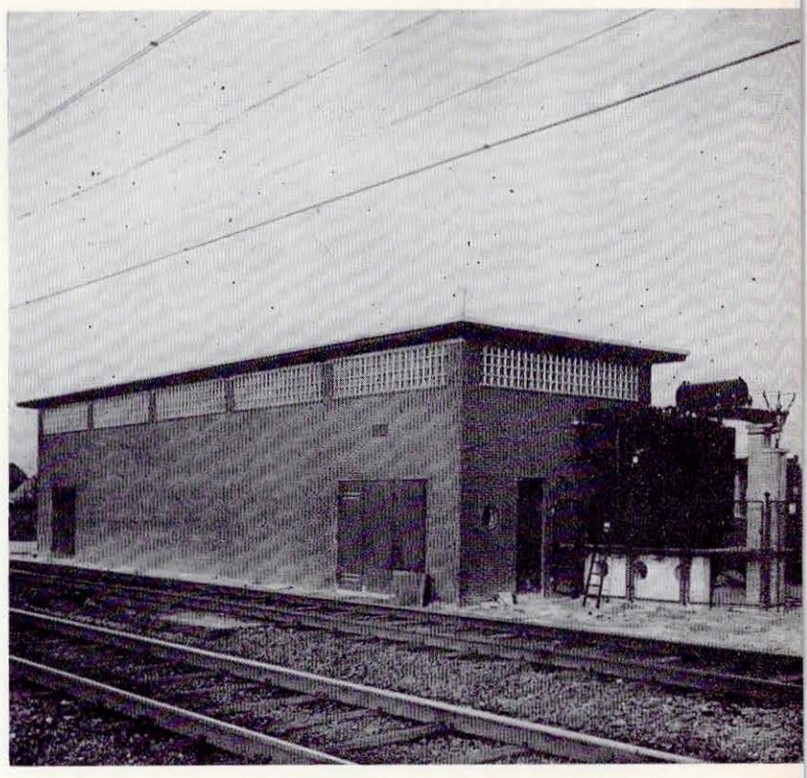
Rail joints are set opposite each other, generally located between ties. Rails are laid on treated ties and ballast is generally of gravel since cut stone is relatively expensive. In view of the unstable character of the soil under the roadbed, the railroad's engineers try to limit the weight per axle to 35,000 lb., if possible. Tracks are spaced 13 ft. apart where practicable.

Motive Power

As of January 1, 1951, the Netherlands Railways owned:

744 steam locomotives
15 trolley electric locomotives
51 diesel-electric locomotives
4 diesel-mechanical locomotives
148 diesel-electric locomotors*
10 heater cars
109 individual trolley electric motor cars
567 trolley electric bodies for 2-, 3-, 4-, and 5-car trains
157 diesel-electric bodies for 3- and 5-car trains

*A locomotor is a small switching locomotive operated by one man, not necessarily a trained engineman.



Netherlands Railways substation.

This inventory has been augmented in 1951 and 1952 by the addition of Alsthom 2,950-hp. 4-axle and 3,800-hp. 6-axle trolley electric locomotives, and some 6-axle Heemaf locomotives. When these orders are completed the railroad will have 95 trolley electric locomotives. The number of streamlined trolley electric trains is also being gradually increased and some additional diesel-electric motor trains are being received also.

The steam locomotives are heterogeneous in type, ranging from relatively small switchers to Consolidations, 2-8-0, and 10-wheelers, 4-6-0. There are also a few heavier locomotives, used for such purposes as humping, and some 4-cylinder locomotives. Present plans call for the abandoment of all steam locomotive operations in the Netherlands as rapidly as possible.

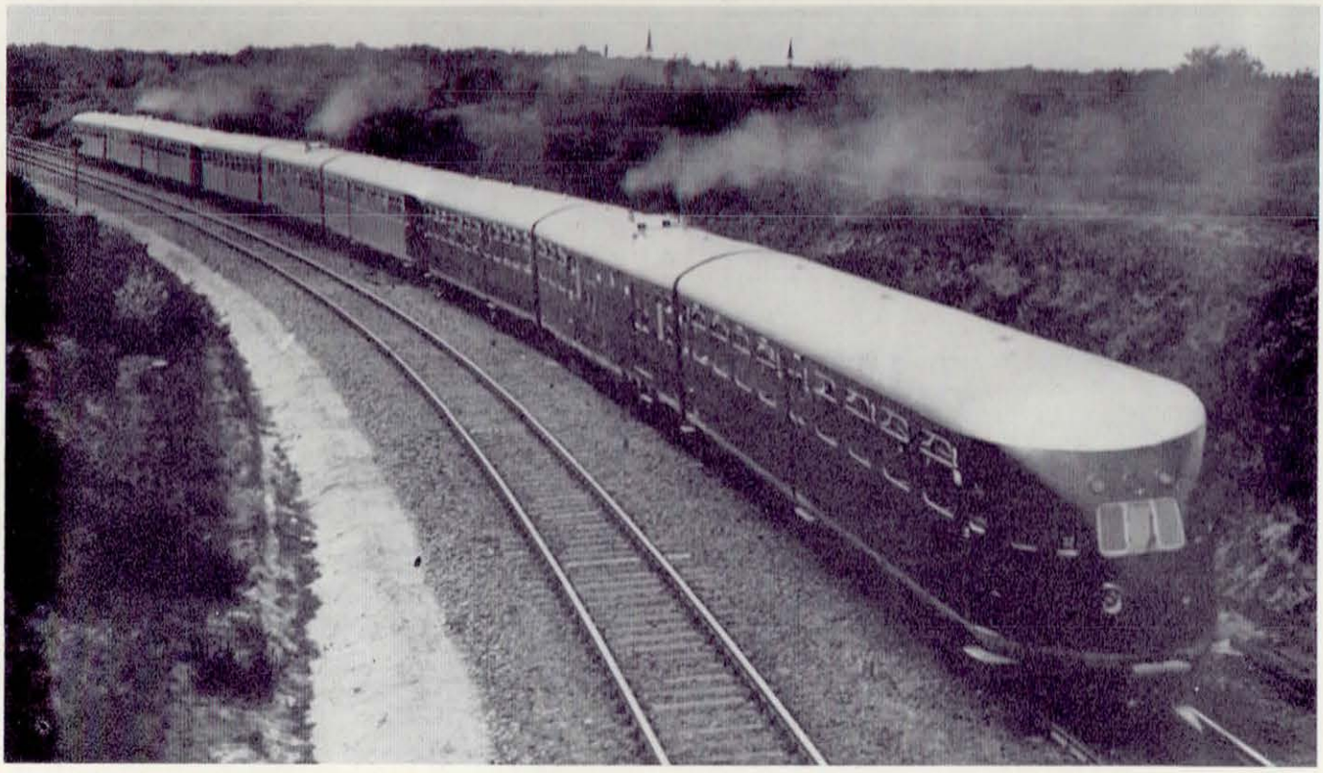
Rolling Stock

The railroad owns nearly 25,000 freight cars of various types, most of these being of 2-axle construction with roller bearings and clasp brakes predominating on the later rolling stock. The inventory consists of box cars for fruits and vegetables, refrigerator cars, gondolas, container cars, and many other types as found on any railroad for normal or special purposes. The conventional European couplers are used with side buffers, the face of the right-hand buffer being convex, and that of the left-hand buffer being flat.

The railroad owns nearly 700 passenger cars for locomotive-hauled trains. There are also 53 postal cars, 701 baggage cars (including high-speed freight cars), and 13 combination postal-baggage cars for such trains.

There are no signal lines through the trains. Signal for the departure of a train is given by the station master.

Power for the operation of trolley electric locomotives and multiple-unit trains is generated by the provincial



Three three-body diesel-electric train sets.

and municipal coal-burning power companies within the Netherlands. Three-phase 50-cycle power is delivered to the substations of the railroad at 10,000 volts, although some of the earlier substations are fed at 25,000 volts. Power lines are generally underground and enter the substations in that way.

Power is converted from 3-phase, 50-cycle alternating current to direct current by mercury-arc rectifiers, the sizes in use being 500 kw., 1,000 kw. and 1,200 kw.

The contact system of the Netherlands Railways has reached a high degree of practicability and relatively low cost. Starting with single poles and bracket arms on each side of double tracks, the railroad soon learned that poles would cant in the soft ground under wind and ice loads.

The solution was to supply a cross member between the pole tops and eliminate the bracket arms. Thereafter, there were installations of lattice-type poles, then of vertical "I" beams, then an ogive concrete arch, then vertical cylindrical uprights linked by a horizontal beam.

The latter type has become the simple standard system. Supporting structures were first spaced 75 meters, or 246 ft. apart, later changed to a spacing of 65 meters, or 213 ft., then finally standardized at 70 meters, or 230 ft.

Contact System

The standard contact system comprises a single copper catenary wire of 150-square-millimeter cross section, around 300,000 c.m., with hangers from this to two horizontal and parallel contact wires, each with a cross-sectional area of 100 square millimeters (each is approximately equivalent to a 4/0 wire). Paralleling these, mounted on insulators above the supporting cross member, is a single feeder wire with a cross section of 150 square millimeters. The combined area of the four conductors per track, then, is 500 square millimeters (0.775 square in. or 987,000 circular mils). The contact systems of parallel tracks are tied together to improve the current carrying capacity. The average height of the contact wires above the surface of the rails is 18 ft. 1 in., with a maximum of 19 ft. 2 in. and a minimum of 15 ft. 10 in.

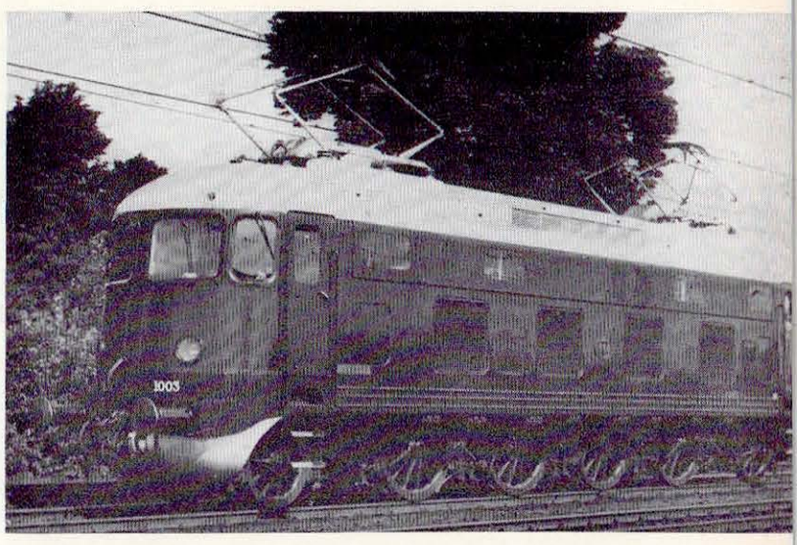
Shops and Maintenance Points

The Netherlands Railways has four main shops for the overhaul of equipment. Haarlem, in the northwestern area, handles trolley electric and diesel-electric motorcar overhauls; Tilburg, in the south central part of the country, takes care of locomotives (steam, trolley electric and diesel-electric); Amersfoort, just below the Zuider Zee in the central area, handles freight-car repairs; and passenger cars are overhauled at Utrecht, in the central area. The continuing acquisition of trolley electric and diesel-electric motorcars and locomotives and the shrinking of the steam locomotive inventory has forced changes in shop layouts and equipment and will require still further changes and expansions in the future.

Regular inspections and running repairs of the trolley electric rolling stock are now made at three points: Amsterdam, in the northwest; Leidschendam, central west; and Maastricht, in the extreme southeast. In general, Amsterdam takes care of trolley electric motorcars and locomotives; Leidschendam of trolley electric motor cars; and Maastricht of all types. This, of course, does not cover steam power, whose maintenance points are scattered over the system and are rapidly being reduced

in number. Diesel-electric motorcars are inspected at Utrecht, while diesel-electric locomotives are inspected at Rotterdam (Fijenoord), Utrecht, Zwolle, Amsterdam, and Eindhoven.

The Netherlands Railways has a very effective inspection and overhaul program. As an instance of this, trolley electric motor cars operate in pools; say, 25 four-car trains in Pool G, 13 three-car trains in Pool H, and so forth. Each of these pools takes care of a set of regular runs, each train of the pool operating on a different run each day until all runs have been covered, then starting over again. A marker is placed in the front window to show the pool and the run, such as "H-1." In this schedule of rotation, periodic visits to the inspection sheds are considered as one of a train's regular assignments. Thus, each of the trains performs exactly the same mileage as the others and is inspected at the same intervals. These trains are withdrawn once a year for light overhaul, once every three years for medium overhaul, and once every 10 years for complete rebuilding. Locomotives and diesel-electric motorcars have similar assignments and periodic overhauls.



Oerlikon 1A-B-A1 trolley electric locomotive.

Discussion

Following the presentation of the paper, written comments by J. P. Koster, chief engineer, traction and rolling stock department, of the Netherlands Railways, were read by Mr. Candee, as follows:

"You give a short outline of the reasons which induced the Netherlands Railways to continue the use of 1,500 volts d.c. Actually, this might also be stated in a negative way, in that we could find no advantage in the use of 3,000 volts d.c., and the use of high voltage a.c. was entirely out of the question. In those days (end of 1945), we found that by adopting 3,000 volts d.c. rather than 1,500 volts d.c., the saving in depreciation of capital costs would be nil, although the saving in energy consumption would be approximately 150,000 guilders per year at a coal price of 15 guilders per ton. This saving, however, would have been heavily overbalanced by the increase in rolling stock maintenance. Also, with 3,000 volts on the trolley in our climate, it would not have been possible to do the trolley line maintenance work without de-energizing the wire, which would be of considerable inconvenience from an operational standpoint.

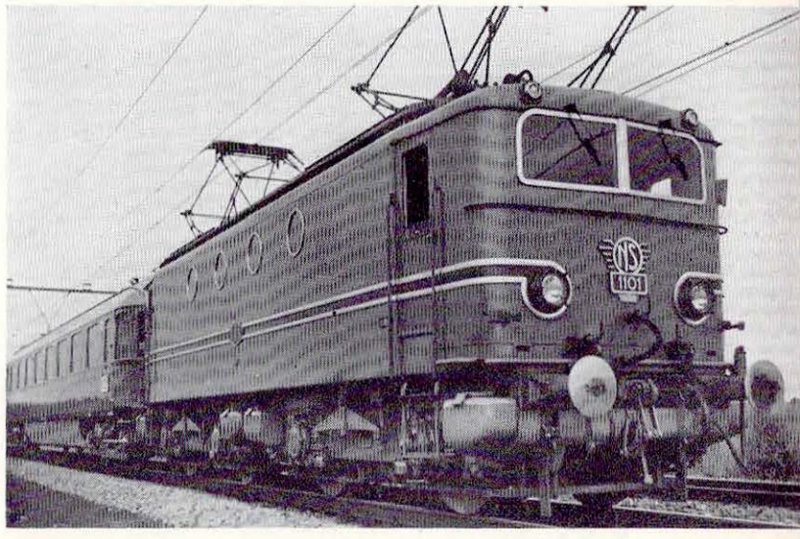
"I would also like to emphasize that the number of electric vehicles per kilometer of electrified line is rather high, so that it pays to choose an electrification system wherein the first cost of propulsion equipments is low. The higher price of fixed installations for a lower voltage d.c. system may be accepted as it will be compensated for by the lower first costs of the propulsion equipments. The relationship of investment for the Netherlands Railways (electrified lines) is approximately: rolling stock, 35 per cent; fixed power installations, 30 per cent; and permanent way and signals, 35 per cent.

"We now find that the 20 single diesel-engine motor cars and the 40 two-body sets on order will not get into service before June 1954. The 17 three-body train sets have now been increased to 29.

"In connection with multiple operation of diesel-electric trains, we can operate six power plants from one driver's cab, which means two five-body or three-body train sets or combinations of these.

"In regard to shops, the Utrecht workshop has now been abandoned, with the steel cars now being overhauled at Haarlem and the older wooden stock (soon to be scrapped) overhauled at Amersfoort. We have now reduced the number of steam locomotive inspection points to nine."

Heemaf C-C trolley electric locomotive.



Alsthom B+B trolley electric locomotive.

(Continued from page 26)
partments in the nation's capital. In the passenger department he succeeds **Terence A. Smith,** resigned. Born at Granville, N.Y., in 1907, Mr. McCormick entered the service of the NYC in 1926 as clerk in the freight tariff bureau at New York. After successive promotions, he was appointed assistant foreign freight agent in 1946 and became assistant general freight agent at Washington in 1950.

The UNION PACIFIC has appointed **J. G. Johnson** as district freight and passenger agent at Klamath Falls, Ore. **Alex Tyrpak** has been made foreign freight representative at Portland.

ENGINEERING AND SIGNALING

Albert A. Johnson, assistant chief engineer of the DELAWARE, LACKAWANNA & WESTERN at Hoboken, N. J., has retired after nearly 45 years of continuous railroad service. Mr. Johnson was born at Mansfield, Pa., on July 8, 1882, and was graduated from Mansfield State Normal School (1900) and Lafayette College (C.E.,1907). He entered railroad service with the New York Central in October 1907 as a rodman on an engineering corps, subsequently advancing to assistant supervisor of track, assistant division engineer at New York and supervisor of track at Kingston, N. Y., and Albany. On December 1, 1925, Mr. Johnson joined the Lackawanna as engineer of track at Hoboken and on August 16, 1934, he became engineer of maintenance of way. He held the latter position until March 16, 1948, when he was promoted to assistant chief engineer.

As reported in *Railway Age* July 28, page 56, **J. C. King** has been named assistant engineer of bridges and structures of the CANADIAN NATIONAL at Montreal. Mr. King was born at Vancouver, B.C., and was educated at Vancouver Technical School and the University of British Columbia, from which he was graduated with the degree of Bachelor of Applied Science in civil engineering in 1939. Prior to joining the CNR, he served as assistant engineer on the Alaska Highway, construction engineer with the British Commonwealth Air Training Plan and construction engineer on the Polymer Synthetic Rubber plant at Sarnia, Ont. Mr. King entered railway service with the CNR in 1944 and was appointed assistant bridge engineer of the Central region in 1948. He became bridge engineer of the Atlantic region in 1949, transferring to the Central region in 1951.

Henry W. Neuebaumer has been appointed acting division engineer, Coast division, of the SOUTHERN PACIFIC, at San Francisco, succeeding **J. E. Wheeler,** who has been granted a leave of absence because of illness.

A. E. Biermann has been appointed principal assistant engineer of the TERMINAL RAILROAD ASSOCIATION OF ST. LOUIS, at St. Louis.

SPECIAL

Joseph F. Emery, formerly bridge and building supervisor of the ALABAMA, TENNESSEE & NORTHERN at York, Ala., has been appointed safety supervisor of the ST. LOUIS-SAN FRANCISCO, at Tulsa, Okla.

Matthew H. Bradway, personnel assistant for the BALTIMORE & OHIO since 1950, has been appointed director of training at Baltimore, to plan and direct training programs among the road's personnel. Mr. Bradway, 42, is a graduate of Asbury College, Wilmore, Ky. He was employed by the Western Electric Company from 1943 to 1950 to handle various phases of its personnel training programs. He is a charter member of the Maryland Society of Training Directors and was a director of that organization in 1949 and 1950.

OBITUARY

J. T. Lovorn, chief of yard and terminal operations of the GULF, MOBILE & OHIO at Union, Miss., died recently. Mr. Lovorn began his railroad career in 1907, and after serving as brakeman and conductor was appointed trainmaster in 1930. He was promoted to chief of yard and terminal operations in 1941.

Louis Wiler Landman, 82, who retired in January 1940 as general passenger traffic manager of the NEW YORK CENTRAL at New York, died at Indianapolis on August 15 of a heart attack. Mr. Landman had been president of the Parmelee Transportation Company of Chicago, a taxicab concern, for the past 12 years.

Clyde Zane, division freight and passenger agent of the CHICAGO, MILWAUKEE, ST. PAUL & PACIFIC at Sioux City, Iowa, died on August 16 in Independence, Mo.

Frank G. McGee, 67, treasurer of the NORFOLK & WESTERN at Roanoke, Va., died of a heart attack on August 21, while on vacation in Wildwood Crest, N.J. Mr. McGee was born at Philadelphia on November 10, 1884, and joined the N&W as a clerk in the secretary's office there in February 1903. He subsequently transferred to the treasurer's office and then became clerk in the office of the vice-president in charge of finances, deputy comptroller, and chief clerk in the office of the vice-president, successively. In February 1936 Mr. McGee became assistant treasurer and was named treasurer in December 1938, moving his office from Philadelphia to Roanoke in the latter year.

(Continued from page 22)
motives acquired by defense agencies and locomotives for export.

A similar expansion "goal" for inland waterways vessels also has been approved by D.P.A. It covers the period from January 1, 1950, through December 31, 1953, and it calls for 3,923 new vessels of all types. Included in the group are railroad carfloats, lighters, tugboats and other vessels "for use in all inland waters, all U.S. harbors, and within the territories and possessions." Vessels designed for use exclusively on the Great Lakes are not included, D.P.A. said. It added that "approximately 2,000" craft of the types covered by this "goal" are already completed.

New Haven to Try Industrial TV

The New York, New Haven & Hartford has informed *Railway Age* that it will experiment with industrial television to determine whether or not—and if so, on what sort of jobs—its use will be practicable. The A. B. Du Mont Laboratories, Inc., of New York, will work with the New Haven.

July Employment

Railroad employment decreased 3.42 per cent—from 1,224,363 to 1,182,485—between mid-June and mid-July, according to the Bureau of Transport Economics and Statistics of the Interstate Commerce Commission. The mid-July total was 8.75 per cent below that of July 1951.

The index of employment based on the 1935-1939 average as 100, was estimated at 113.5 for July, compared with 118.3 for June and 124.3 in July of last year.

July 1952 employment was below the June level in six of the seven employee groups. The largest drop, 6.3 per cent, was in maintenance of equipment and stores employees. Other decreases ranged from 4.31 per cent for the maintenance of way and structures group to 0.75 per cent for professional, clerical and general employees.

The single increase from June to July occurred in the category of executives, officials and staff assistants. The increase there was 0.04 per cent.

As compared with July of last year, the July 1952 employment was down in six of the seven groups. A 14 per

ILLINOIS CENTRAL

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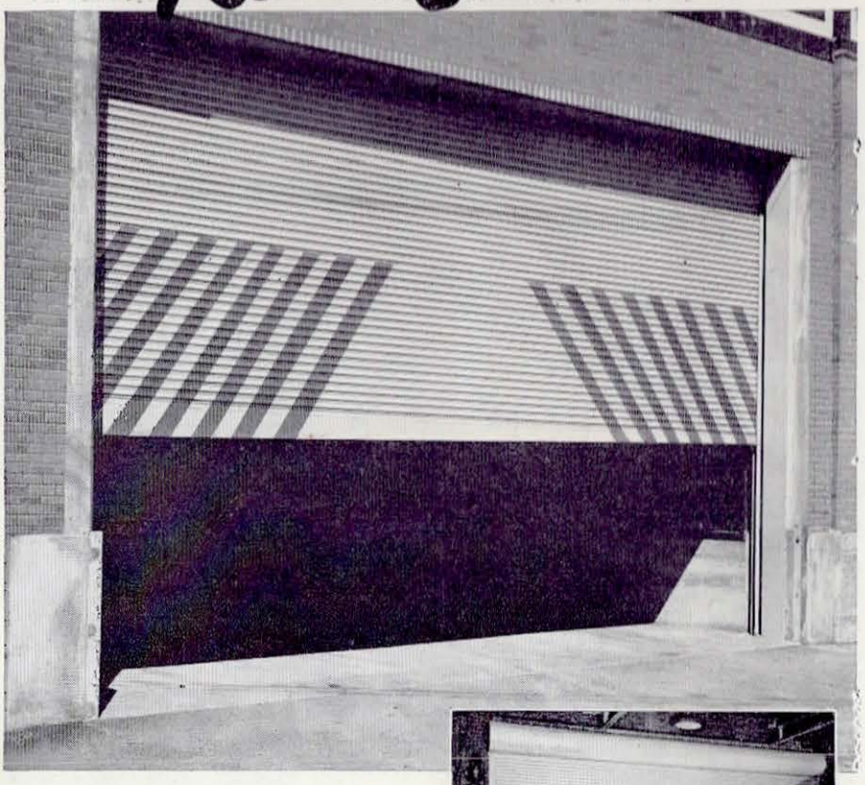

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cent decrease occurred in the maintenance of equipment and stores group. Other decreases ranged from 10.33 per cent for maintenance of way and structures employees to 2.58 for the professional, clerical and general group.

An increase of 0.71 per cent occurred in the executives, officials and staff assistants group between July 1951 and July 1952.

Ban on Canadian Meat Will Stay Awhile

The Bureau of Animal Industry of the United States Department of Agriculture is not considering at this time the removal of outstanding restrictions against importation from Canada of livestock, fresh, frozen or chilled meats. Railroad transportation officers were so advised by an August 20 circular issued by Chairman A. H. Gass of the Car Service Division, Association of American Railroads.

The restrictions were imposed sometime ago, due to the discovery of foot-and-mouth disease in Canada. Canada imposed similar restrictions which have now been removed.

It is the position of the U. S. bureau, as Mr. Gass reported it, that "insufficient time has elapsed since the last known outbreak of foot-and-mouth disease in Canada to ascertain that the disease has been completely eradicated. . . ." The C.S.D. chairman also reported that the bureau was "unable to make any estimate at this time as to how long it will be before they can . . . remove their restrictions."

Meanwhile, the bureau has recently removed like restrictions, which had been in effect for about five years, against imports of livestock, fresh, frozen, or chilled meats from Mexico. The removal came after the lapse of a year since the latest report of an outbreak of foot-and-mouth disease in Mexico.

Amortization Certificates

Certificates of necessity for accelerated tax amortization of facilities were granted to 31 railroads during the period from July 11 through July 31, the Defense Production Administration has announced.

The Pennsylvania was granted a certificate for $30,036,760, and was authorized to write off 55 per cent of this amount in five years. The road also was authorized to write off 60 per cent of other facilities costing $1,650,000.

Other certificates went to roads listed below. The percentage figure in each case indicates the amount that can be written off in five years:

Atlantic Coast Line, $591,435—40 per cent.

Bangor & Aroostook, $9,000,000—70 per cent.

Carbon County, $1,600,000—70 per cent.

Central of New Jersey, $4,888,998—55 per cent.

Chicago & North Western, $692,780—40 per cent.

(Continued on page 110)

HOLD TO HOPPER IN RECORD TIME

...as New York Central expands bauxite facilities another 66%

This picture typifies many things on New York Central. It shows bauxite facilities at Weehawken, Port of New York . . . already expanded 50% . . . now expanding 66% more. And they're typical of the special shipside installations Central offers.

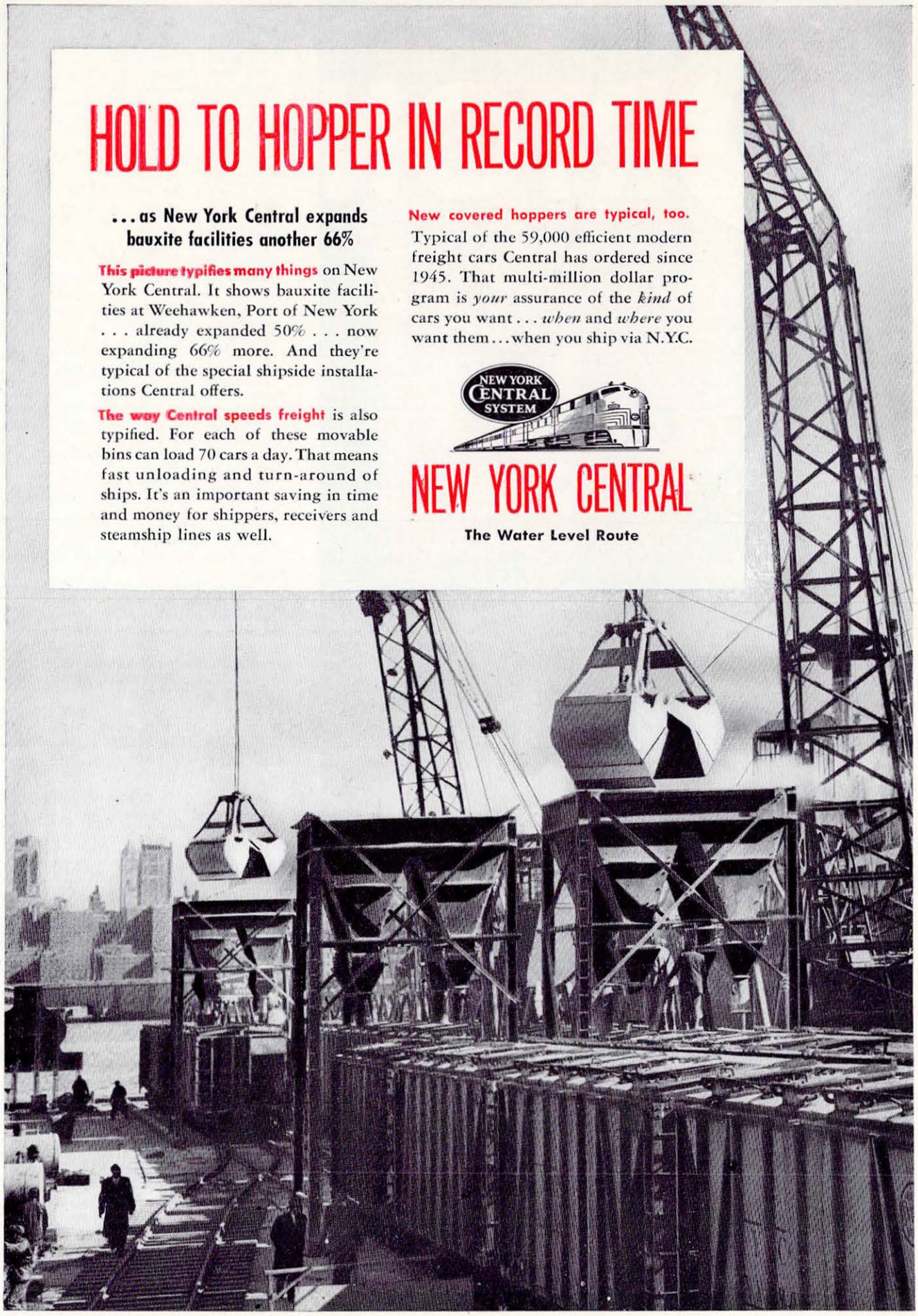
The way Central speeds freight is also typified. For each of these movable bins can load 70 cars a day. That means fast unloading and turn-around of ships. It's an important saving in time and money for shippers, receivers and steamship lines as well.

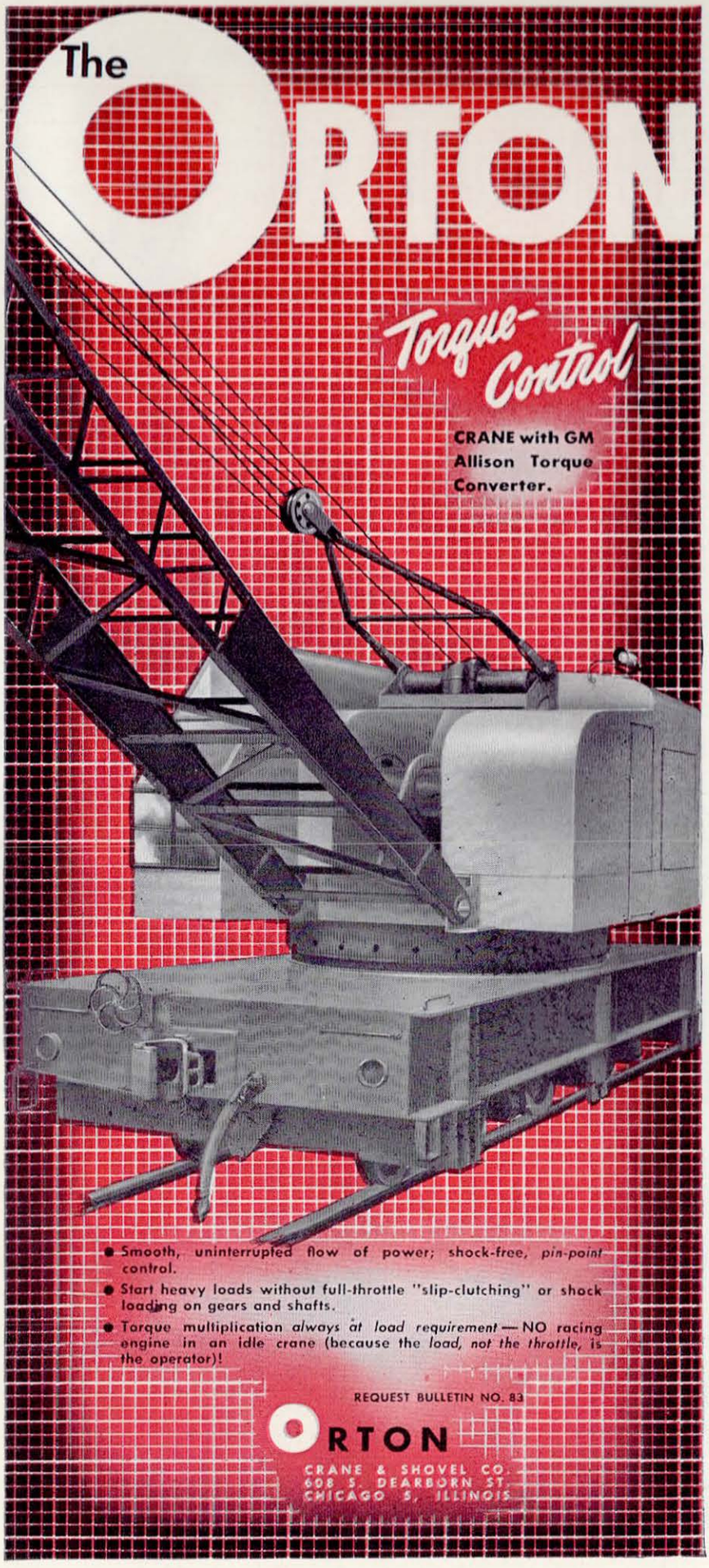
New covered hoppers are typical, too. Typical of the 59,000 efficient modern freight cars Central has ordered since 1945. That multi-million dollar program is *your* assurance of the *kind* of cars you want . . . *when* and *where* you want them . . . when you ship via N.Y.C.

NEW YORK CENTRAL SYSTEM

NEW YORK CENTRAL

The Water Level Route

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Torque-Control
CRANE with GM Allison Torque Converter.
● Smooth, uninterrupted flow of power; shock-free, pin-point control.
● Start heavy loads without full-throttle "slip-clutching" or shock loading on gears and shafts.
● Torque multiplication always at load requirement — NO racing engine in an idle crane (because the load, not the throttle, is the operator)!
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Chicago Great Western, $1,628,421—40 per cent.
Cincinnati, New Orleans & Texas Pacific, $94,072—40 per cent.
Delaware, Lackawanna & Western, $1,450,000—70 per cent.
Erie, $10,739,479—55 per cent.
Illinois Central, $1,152,033—40 per cent.
Kansas City Southern, $81,852—40 per cent.
Lake Superior & Ishpeming, $404,161—40 per cent.
Litchfield & Madison, $160,000—55 per cent.
Los Angeles & Salt Lake, $254,367—40 per cent.
Louisiana & Arkansas, $104,351—40 per cent.
Louisville & Nashville, $10,695,147—40 per cent.
Montour, $850,500—55 per cent.
Nashville, Chattanooga & St. Louis, $120,000—40 per cent.
New York Central, $3,891,870—40 per cent; and $3,847,808—50 per cent.
Norfolk & Western, $8,830,000—70 per cent.
Northern Pacific, $110,230—40 per cent.
St. Louis Southwestern, $867,500—40 per cent.
Seaboard Air Line, $195,701—40 per cent.
Southern, $16,200,000—70 per cent.
Southern Pacific, $2,355,523—40 per cent.
Steelton & Highspire, $70,000—40 per cent; and $210,000—55 per cent.
Tennessee Central, $980,000—70 per cent.
Texas & New Orleans, $42,425—70 per cent; and $598,424—40 per cent.
Toledo Terminal, $104,462—55 per cent.
Union Pacific, $273,826—40 per cent.

In its report for the period from August 1 through August 6, D.P.A. showed that certificates then approved included those listed below:

Chicago Great Western, $400,000—50 per cent.
Nashville, Chattanooga & St. Louis, $178,492—70 per cent.
New York Central, $3,373,000—40 per cent.
Union Pacific, $659,470—40 per cent.
Wabash, $3,101,378—40 per cent; and $28,860—50 per cent.

D.T.A. Wants 300,000 Trucks in 1st Quarter '53

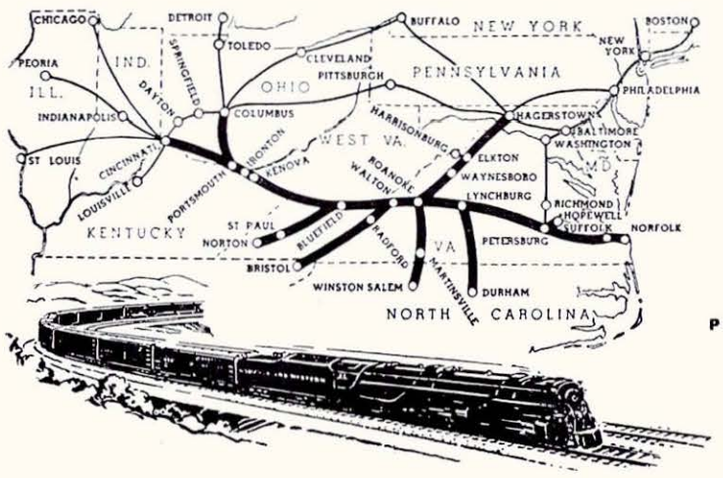
Presentations submitted by the Defense Transport Administration to the National Production Authority seek allocations of controlled materials for production of 300,000 motor trucks in the first quarter of 1953. This was revealed by D.T.A. Administrator James K. Knudson in a recent statement which also noted that the presentation is now before the Defense Production Administration for action.

In addition to the trucks, D.T.A. is seeking materials for production during the first quarter of next year of 1,250,000 passenger automobiles, 110,000 "truck" bodies (including 6,000 bus bodies), 16,000 trailers, 300 urban transit vehicles 2,000 "integral buses," and $570,000,000 worth of "automotive replacement parts."

Meanwhile, N.P.A. has been advised by its Motor Truck Manufacturers Industry Advisory Committee that 350,000 trucks should be produced in next

The Norfolk and Western owns and operates a fleet of modern heavy-duty, custom-built coal-burning locomotives . . . maintained in top-grade condition . . . available around the clock . . . immediately ready to haul your freight.

This ample power pool is only one of the many advantages you get when you ship "Via N&W" — but it is a major reason why N&W transportation is *Precision Transportation.*



Norfolk and Western RAILWAY

PRECISION TRANSPORTATION

N&W freight representatives are located in principal U. S. cities, as near as your telephone. They have wide experience, and their job is to help you with shipping problems, without obligation. Call on them — they're *at your service.*

MODERN TIME and COST SAVERS BUILT BY... Standard GRAVITY & POWER CONVEYORS

Standard LITEWATE *Sectional Roller Conveyor*

LIGHT AND EASY TO CARRY

Put it where you need it!

— ideal for loading and unloading trucks and conveying jobs that require moving about — one man can easily pick up and carry a section or curve with little effort. Handles commodities weighing up to 60 lbs. — moves bags, cases, cartons, hollow bottom, narrow, cleated and irregular packages or articles not suited to wheel conveyors. Available in 10 ft. and 5 ft. straight sections and 90° and 45° curves. Write for Bulletin 63 B — address Dept. RA-92.

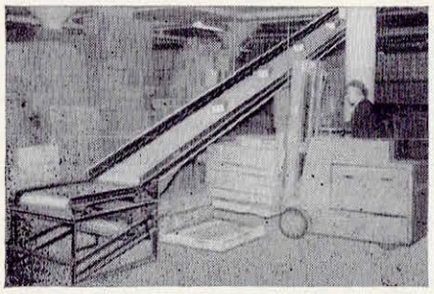
Standard All Purpose Roller Conveyor

— available in a complete line of roller sizes and capacities designed to allow the selection of the best roller for the job, from a 1 inch diameter roller, capacity 35 lbs., to a 3½ inch diameter with a capacity of 550 lbs. Any commodity with one smooth riding surface can be carried — boxes, cases, cartons, lumber, milk cans, brick, building tile. Straight sections and 90° and 45° curves. Write for Bulletin 63 B — address Dept. RA-92.

Faster Handling in Shipping Rooms with the HANDIBELT

— conveys bags, cartons, boxes horizontally or at any decline and incline angle within its range. Easily wheeled about by one man — easy to adjust and use — fits in crowded aisles, cars, freight elevators. Handles packages up to 135 lbs. Can be placed in series to form a complete conveyor line. Available in 3 sizes: No. 11, No. 16, and No. 21 with 14 and 21 inch belt widths. Write for Bulletin No. 63 B — address Dept. RA-92.

Lift or Lower . . . Floor to Floor . . . with the INCLINEBELT



— move boxes, cases, cartons, sacks or bundles from basement to first floor, or any floor to floor — continuously. Compact, simple to install — minimum maintenance. Lift or lower 10 to 20 lbs. of live load per ft.; floor elevations of 8 ft. to 14 ft. 6 inches inclusive; belts widths — 8, 12, 14, 18 and 24 inches for commodities of various sizes. A horizontal feed section is generally used to deliver commodities to the Inclinebelt. Write for Bulletin 63 B — address Dept. RA-92.

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Send for Standard Bulletin 63 B describing gravity and power conveyors units — address Dept. RA-92

year's first quarter. The committee took this position at an August 13 meeting in Washington, D. C.

Retirement Benefits Total $450 Million for Year

During the Railroad Retirement Board's fiscal year ended June 30 some 890,000 men, women and children were paid nearly $450 million under the retirement and unemployment insurance acts.

In a preliminary summary of the year's operations, the board said that both these figures were "well above" those for the preceding year, primarily because of 1951 amendments to the retirement act, which provide higher benefits to almost all retired employees and their survivors, and which made wives of retired employees eligible for annuities for the first time. Retirement benefits paid during the year came to $394 million. A breakdown of the more than 500,000 persons receiving those benefits showed 268,000 to be retired employees, 81,000 to be wives of retired employees, and 151,000 to be survivors of deceased employees.

Unemployment and sickness benefits totaling $49 million went to 295,000 additional employees.

The cost of administering the laws amounted to 1.6 cents out of each dollar paid in retirement benefits and 10 cents out of each dollar paid under the unemployment insurance act. The total administrative cost was $11,700,000.

The balance in the retirement account at the close of June was $2,869,000,000. This, the board emphasized, was not to be considered surplus, "since obligations with respect to service already performed far exceed this balance." The unemployment insurance account balance stood at $753,400,000.

Last Assigned Service Determines Voting Rights

The class of service to which a railroad employee was "last regularly assigned" before going on leave of absence determines the voting rights of that employee in a representation election.

The National Mediation Board made this finding in a recent dispute between the Brotherhood of Railroad Trainmen and the Order of Railway Conductors. A representation election for road conductors on the Delaware & Hudson had raised the eligibility question on two employees.

One of the employees, who is an officer of the B.R.T., went on leave of absence as a brakeman in 1938, was promoted to conductor's roster in 1941, but never performed service. The B.R.T. argued he should be allowed to vote as a conductor, while the O.R.C. contended he was ineligible because he never actually worked as a conductor. The board upheld the O.R.C. view.

The second employee was granted

leave of absence as a conductor in 1942 because of a physical condition. He subsequently returned to work as a crossing watchman and retired on a disability annuity in 1945. For purposes of the election, however, he was given what amounted to leave-of-absence status because of the possibility of his returning to service before reaching 65 years of age.

The B.R.T. contended this man could vote as a conductor under the leave-of-absence rule. The O.R.C. argued that his "last regularly assigned service" was not as a conductor but as a crossing watchman. Again, the board upheld the O.R.C.

D.T.A. Job Study of Handicapped Persons

Manpower Special Study No. 6—Employment of Handicapped Workers—has been issued by the Manpower Division of the Defense Transport Administration.

The study was made "with the view of stimulating further employment of handicapped workers in transportation industries," a D.T.A. announcement said. Copies may be obtained from the D.T.A. Information Office, Room 4217, I.C.C. Building, Washington 25, D. C.

N.P.A. Amends Reporting Rules of Rail Equipment

The National Production Authority has amended its Order M-95, which sets up basic reporting requirements for manufacturers of locomotives and freight cars. The amendment became effective August 19.

It revised the order to require the covered builders to report to N.P.A. before the 15th of the first month of each calendar quarter on proposed production and delivery of locomotives and cars for the current quarter and the three succeeding quarters. The report formerly required covered only a single quarter.

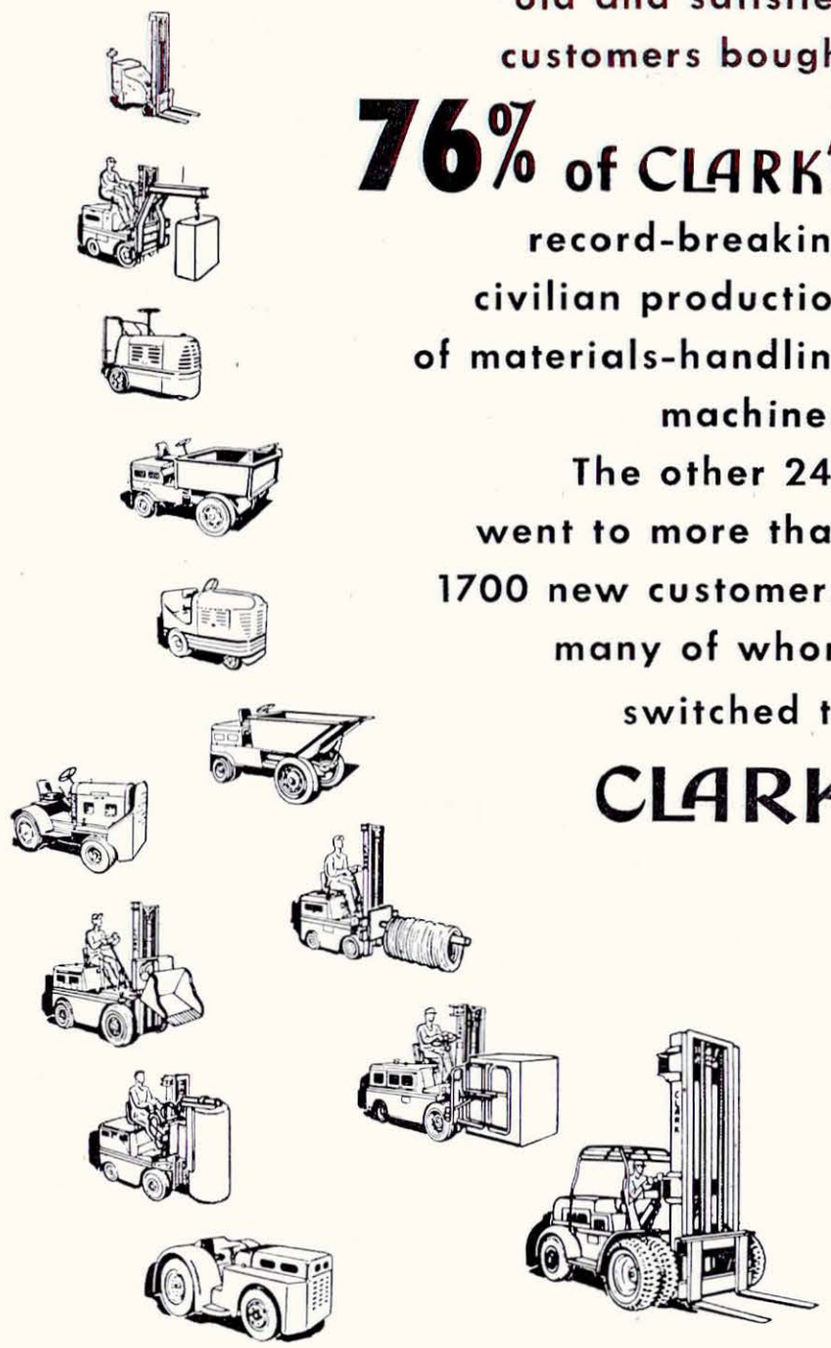
23 Roads Seek Probe Of Indiana Coal Rates

Twenty-three railroads operating in Indiana have asked the Interstate Commerce Commission to institute an investigation into the level of intrastate coal rates in that state.

The roads filed a petition alleging that failure of the Indiana Public Service Commission to allow full Ex Parte 175 increases on intrastate shipments of bituminous coal will cost the carriers approximately $660,000 annually. The final increase on coal authorized by the I.C.C. was 12 per cent (subject to a maximum of 40 cents a net ton).

The Indiana Commission allowed the first Ex Parte 175 increases to become effective. These amounted to 9 per cent, with a 20 cent maximum. The I.C.C. allowed an additional increase last April, and it was this increase which

In 1951, old and satisfied customers bought **76%** of CLARK'S record-breaking civilian production of materials-handling machines. The other 24% went to more than 1700 new customers, many of whom switched to CLARK



To learn more about why CLARK retains its customers and steadily gains new ones, fill out the coupon, attach to your business letterhead and drop it into the mail.

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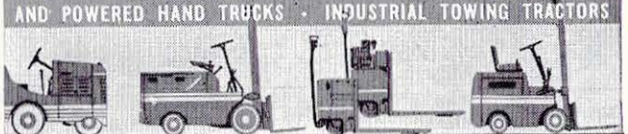
AND POWERED HAND TRUCKS · INDUSTRIAL TOWING TRACTORS



INDUSTRIAL TRUCK DIVISION • CLARK EQUIPMENT COMPANY • BATTLE CREEK 24, MICHIGAN
Please send: ☐ Material Handling News ☐ Movie Digest ☐ Basic Facts
☐ Please have representative call.

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Firm Name_____
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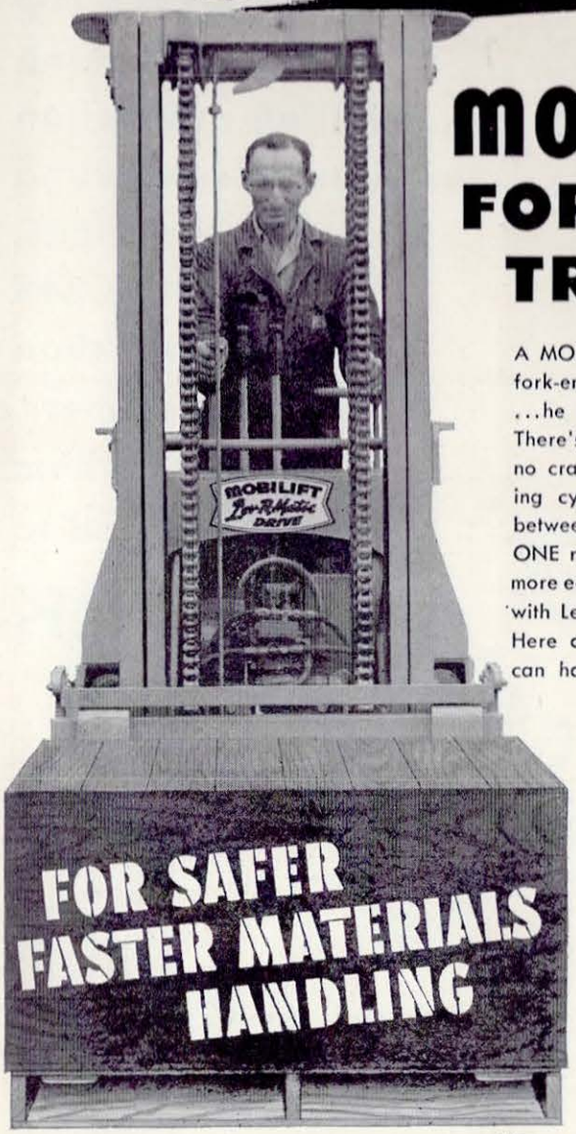
AUTHORIZED CLARK INDUSTRIAL TRUCK PARTS AND SERVICE STATIONS IN STRATEGIC LOCATIONS

VISIBILITY UNLIMITED

with

MOBILIFT FORK LIFT TRUCKS

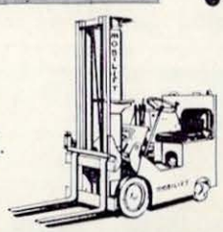


A MOBILIFT operator can see the fork-ends when he picks up a load ...he can see where he's going! There's no groping for the load... no craning around vision-obstructing cylinders. *Unlimited visibility* between Mobil-chain uprights is just ONE reason you get faster, safer, more economical materials handling with Lev-R-Matic Drive MOBILIFTS. Here are other reasons why you can handle materials at less cost with MOBILIFT:

- **Lev-R-Matic PUSH-PULL controls for forward-back movement, lifting and tilting. NO GEARS TO SHIFT.**
- **360° steering wheel makes zero *inner turning* radius possible with stand-up models.**
- **Compact design for maximum maneuverability.**
- **Easy accessibility for servicing and maintenance.**
- **Powerful 3-cylinder gas engine.**

FOR SAFER FASTER MATERIALS HANDLING

STAND-UP MODEL
2000, 2500, 3000, 3500-lb. capacity.
63", 72", 83" Masts
Special Masts to order.
Write for complete specifications.



SIT-DOWN MODEL
2000, 3000-lb. cap.
63", 72", 83" Masts
Special Masts to order.

MOBILIFT Lev-R-Matic DRIVE

MOBILIFT CORPORATION
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2317 W. 18th, CHICAGO • 790 Patterson Ave., E. RUTHERFORD, N. J.
111 Spring St. N. W., ATLANTA • 2724 Taylor St., DALLAS
2730 San Pablo Ave., BERKELEY

the state commission refused to permit on intrastate coal.

Failure of the Indiana commission to approve a like increase on intrastate coal shipments constitutes an undue burden on interstate commerce, and is discriminatory in favor of Indiana shippers, the railroads charged.

June Accidents

The Interstate Commerce Commission has made public its Bureau of Transport Economics and Statistics' preliminary summary of "steam railway" accidents for June, and for the first six months of this year. The compilation, subject to revision, follows:

Item	Month of June 1952	Month of June 1951	6 months ended with June 1952	6 months ended with June 1951
Number of train accidents*	692	806	4,863	5,462
Number of accidents resulting in casualties	39	35	279	271
Number of casualties in train, train-service and nontrain accidents:				
Trespassers:				
Killed	120	122	458	489
Injured	117	100	451	453
Passengers on trains:				
(a) In train accidents*				
Killed	..	..	..	92
Injured	34	55	138	895
(b) In train-service accidents				
Killed	4	1	4	6
Injured	149	168	855	835
Travelers not on trains:				
Killed	1	1	8	2
Injured	66	62	358	371
Employees on duty:				
Killed	29	29	180	182
Injured	1,607	1,810	10,061	11,410
All other nontrespassers:**				
Killed	105	119	771	819
Injured	319	379	2,744	3,009
Total — All classes of persons:				
Killed	259	272	1,421	1,590
Injured	2,292	2,574	14,607	16,973

*Train accidents (mostly collisions and derailments) are distinguished from train-service accidents by the fact that the former caused damage of $300 or more to railway property in 1951. Beginning January 1, 1952, this minimum was raised to $325. Only a minor part of the total accidents result in casualties to persons, as noted above.

**Casualties to "Other nontrespassers" happen chiefly at highway grade crossings. Total highway grade-crossing casualties for all classes of persons, including both trespassers and nontrespassers, were as follows:

Persons				
Killed	90	99	701	747
Injured	187	245	1,831	2,060

Traffic Club of Chicago Offers Four Scholarships

"As a means of encouraging study among the younger men in the traffic industry and to advance the calibre of men representing the industry," the Traffic Club of Chicago is offering four free scholarships for courses in traffic management in four Chicago schools. Competition is open to residents of the United States who are 18 years or older and who are high school graduates or who have had an equivalent education.

Winners of the scholarships, upon successful completion of their courses, may qualify for an additional award

Personal Interest

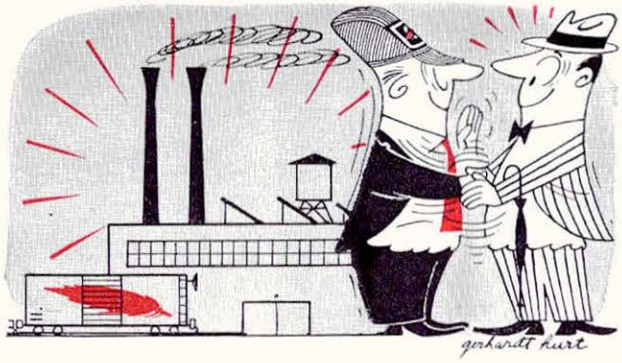
makes the difference

1. Mr. Ty Koon has just made two wise decisions: to build a branch plant in Northern California and to ask Western Pacific to help him find a strategic location for same.

2. Here is Mr. Ty Koon discussing his requirements with Western Pacific's industrial development experts. Everything is very hush-hush so that Mr. Ty Koon's competitors won't get wind of his plans.

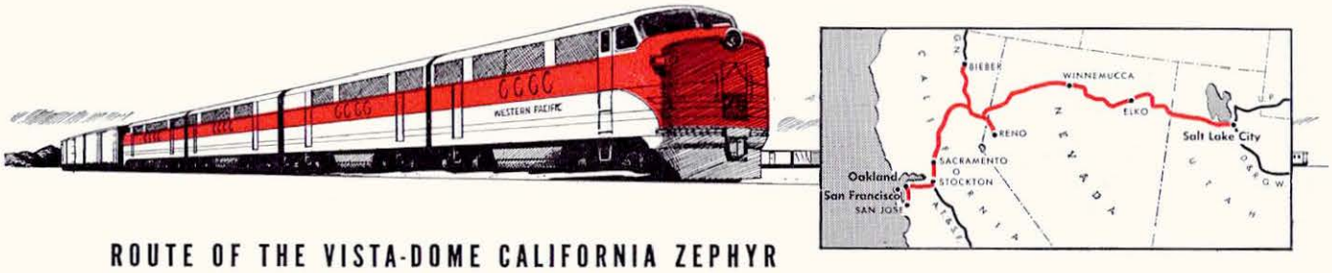
3. The search is on! Every possible site is checked and re-checked by Western Pacific's plant location specialists who have a long-time intimate knowledge of this territory.

4. Nothing's too much trouble when it's a question of helping a WP customer, present or potential. A mass of pertinent data is analyzed before a final recommendation is submitted to Mr. Ty Koon.



5. If you too are looking for a plant location in this area, be sure to get in touch with Western Pacific, the railroad that takes a personal interest in *all* the problems of its customers.

For SUPER SERVICE all along the line, ship via Western Pacific!



ROUTE OF THE VISTA-DOME CALIFORNIA ZEPHYR

WESTERN PACIFIC

General Offices: 526 Mission Street, San Francisco 5, California
Frank B. Stratton, Industrial Commissioner

A NEW Service to Railroads

• PRESSURE CREOSOTED TREATMENT
• PRESSURE PENTACHLOROPHENOL TREATMENT

• Treated in our modern, new treating plant at Diboll, Texas. Write or call for price information.

SOUTHERN PINE LUMBER CO.

MILLS: DIBOLL and PINELAND, TEXAS
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POLES TIMBER LUMBER PILING FENCE POSTS

Pressure TREATED MATERIALS

covering the cost of membership examinations given by the American Society of Traffic and Transportation. The courses will be offered at the College of Advanced Traffic, Northwestern University, LaSalle Extension University and Freight Traffic Institute.

Application forms may be obtained from Carl H. Groninger, chairman of the club's educational committee, care of the Palmer House, Chicago 3. Mr. Groninger, who is freight traffic manager of the Baltimore & Ohio, requests the forms be filled out and returned to the club not later than September 15.

Committee Seeks Views For Retirement-Act Study

A four-part questionnaire on railroad retirement has been sent to railroads, labor organizations, government agencies and other interested parties by the Joint Senate-House Committee on Railroad Retirement. The questionnaire deals with financing, liberalization of benefits, changes in eligibility requirements and general comments.

The committee brought together under these four general headings various proposals which have been made for changing the Railroad Retirement Act. It also included the estimated costs or savings to the system which would result from such proposals. Parties receiving the questionnaire were asked to file their replies by September 15.

A letter accompanyng the questionnaire was signed by Senator Douglas, Democrat of Illinois and chairman of the committee. He noted that "present costs (of the retirement system) exceed present income by 1.6 per cent of payroll or $78.4 million a year." The senator added that 1951 amendments to the act increased the cost of retirement benefits to an estimated 14.10 per cent of taxable payroll, whereas tax income from railroads and employees totals 12.5 per cent.

The questionnaire is part of a comprehensive study of railroad retirement which the joint committee is conducting. The group held public hearings earlier this month. (*Railway Age*, August 11, page 12).

In addition to topics covered by the present questionnaire, the committee expects to study the relationships of the railroad retirement system with the program of the Social Security Administration. A farther questionnaire on that subject may be circulated later, the committee said.

D.P.A. Approves 600-Plane Program

The Defense Production Administration has announced an "interim expansion program" calling for the delivery of 600 planes to commercial air carriers by December 31, 1954. The announcement also said that air lines covered by the program now have 509 planes on "firm order."

Briefly . . .

. . . The "best advertising match book issued promotionally by a railroad" will win for its user a plaque for "distinguished use of book match advertising" in a contest being conducted by the Match Industry Information Bureau, 1 East 43rd street, New York 17. Awards will be made on September 26 in each of 41 classifications of products and services.

. . . The "Badger," second of the Chesapeake & Ohio's two new Lake Michigan car ferries, will be launched on September 6 at Sturgeon Bay, Wis. Its twin ferry, the "Spartan," which was launched last January 4, and is now nearly ready for service, will be christened at the same time. The two new radar equipped ferries, each 410 ft. long, with a normal service speed of 18 m.p.h., will operate between Ludington, Mich., and Milwaukee, Wis., Manitowoc and Kewaunee. Each has 60 staterooms, and a 52-seat dining room, and can carry 32 freight cars or 150 automobiles.

. . . A new course in traffic management, limited to 20 students, will be offered by the Adult Education division of Brooklyn College, Brooklyn, N. Y., for a period of eight weeks, beginning October 16. Fee for the course, which will meet each Thursday evening, is $15.

. . . The Rock Island is about to install its first continuous welded rail "as an experiment to determine the practicability of its wider application." A five-mile section of line on the Rock Island division west of Peru, Ill., has been selected for the test. The rails will first be welded in 1,500-ft. lengths, then transported to the actual site on a train of 40 flat cars. These individual lengths will be welded together as the work progresses.

. . . A detailed business study of the Gulf, Mobile & Ohio and the territory it serves has been completed by James H. Lemly. Mr. Lemly took leave from the University of Mississippi in 1950 to prepare the work as his thesis for a degree of Doctor of Commercial Science in the School of Business of Indiana University. His work has been accepted by the U. of I. and will be in the hands of the printer very shortly. The thesis, which is the result of more than a year of research, records the system's expansion in the 20th century. Following completion of his thesis, Dr. Lemly will assume new duties on the staff of the School of Business of the University of Georgia.

Current Publications

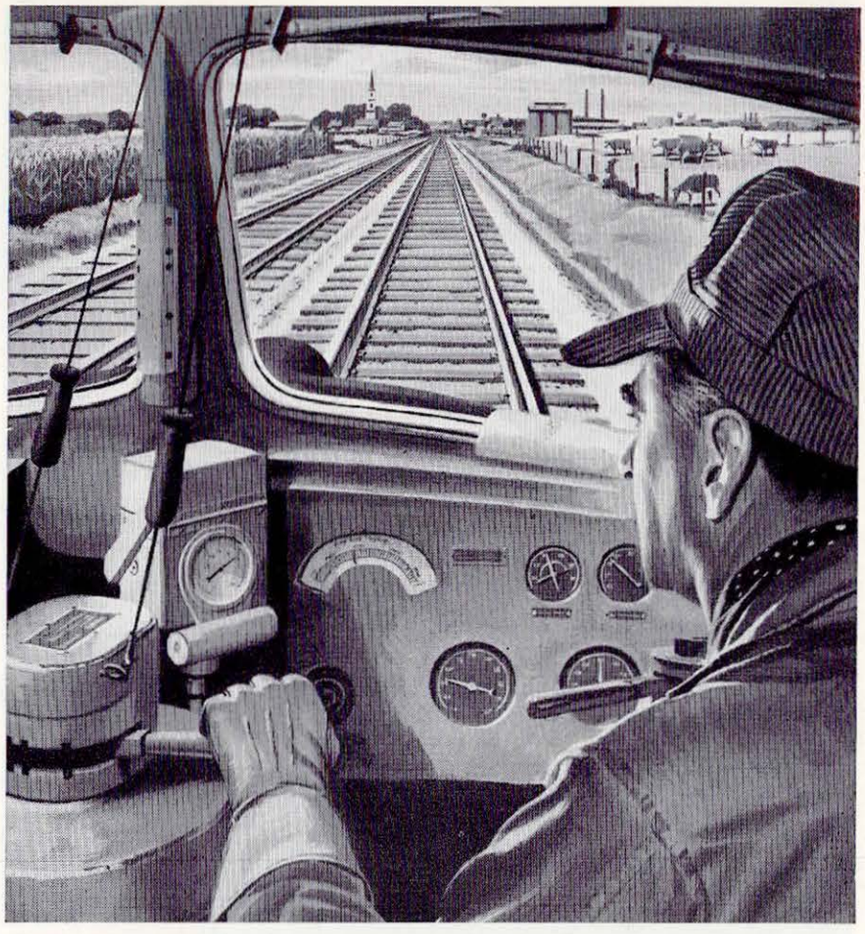
PAMPHLETS

The National Apprenticeship Program, 1952 edition. 30 pages. Publications branch, Bureau of Apprenticeship, U. S. Department of Labor, Washington 25, D. C. Free.

What apprenticeship is, the occupations in which apprentice training is given, how apprenticeship programs are established, the functions of the Bureau of Apprenticeship of the U. S. Department of Labor, state apprenticeship agencies, and joint management-labor apprenticeship committees are explained in this pamphlet.

America's Wealth; the Last Hundred Years—and the Next, by Harold G. Moulton. 48 pages, illustrations, charts. Brookings Institution, 722 Jackson pl., Washington 6, D. C.

"Some hundred and seventy-five years ago, the Western world unleashed a spurt of economic progress such as had never been seen before. . . . What accounted for that progress? No single cause. Man discovered how to organize production far better than ever before. He found out how to divide up tasks of production among teams of workers, each doing only that part of the whole for which he was best fitted. He found out how to produce things in those places best fitted to make them cheaply and well. He learned to organize production in factories, and how to apply steam and water power to surpass and supplant the power of men and animals to make his goods and to transport them. The catalyst in this process, the new element present which made it possible for man to capitalize on ingenuity and determination, was a degree of economic freedom far larger than any great society had ever before reached. . . . With this progress, however, came new and special economic problems. New fears beset individuals and groups: technological unemployment, depressions, extremes of wealth and poverty. The fundamental and the recurring problem was this: Granted our ability to produce enough to meet the basic needs of all, are we making economic progress for everyone? That is, are we distributing more and more goods, more and more widely among the people? . . . . How can we judge for ourselves the state of these problems today? How can we estimate the factors responsible for progress, and better understand our economic system?" Mr. Moulton attempts to answer the questions propounded in the introduction to his study, quoted above, by taking a look at the last century, decade by decade. He next considers the goals we hope to achieve—a progressively larger total national income; a progressively wider division of national income; individual rewards based primarily on work performed; increasing economic security; maximum development of the capacities of every individual; and opportunity for every capable individual to earn his own income. He then considers our potentials for achieving those goals and the national policy needed to realize them.



THRIFTIEST distance between two points...

is by all odds the uncongested steel highway of your American railroads!

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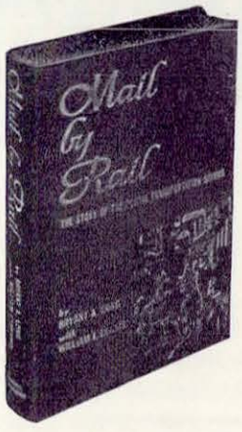

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Current Publications

PAMPHLETS

The National Apprenticeship Program, 1952 edition. 30 pages. Publications branch, Bureau of Apprenticeship, U. S. Department of Labor, Washington 25, D. C. Free.

What apprenticeship is, the occupations in which apprentice training is given, how apprenticeship programs are established, the functions of the Bureau of Apprenticeship of the U. S. Department of Labor, state apprenticeship agencies, and joint management-labor apprenticeship committees are explained in this pamphlet.

America's Wealth; the Last Hundred Years—and the Next, by Harold G. Moulton. 48 pages, illustrations, charts. Brookings Institution, 722 Jackson pl., Washington 6, D. C.

"Some hundred and seventy-five years ago, the Western world unleashed a spurt of economic progress such as had never been seen before. . . . What accounted for that progress? No single cause. Man discovered how to organize production far better than ever before. He found out how to divide up tasks of production among teams of workers, each doing only that part of the whole for which he was best fitted. He found out how to produce things in those places best fitted to make them cheaply and well. He learned to organize production in factories, and how to apply steam and water power to surpass and supplant the power of men and animals to make his goods and to transport them. The catalyst in this process, the new element present which made it possible for man to capitalize on ingenuity and determination, was a degree of economic freedom far larger than any great society had ever before reached. . . . With this progress, however, came new and special economic problems. New fears beset individuals and groups: technological unemployment, depressions, extremes of wealth and poverty. The fundamental and the recurring problem was this: Granted our ability to produce enough to meet the basic needs of all, are we making economic progress for everyone? That is, are we distributing more and more goods, more and more widely among the people? . . . . How can we judge for ourselves the state of these problems today? How can we estimate the factors responsible for progress, and better understand our economic system?" Mr. Moulton attempts to answer the questions propounded in the introduction to his study, quoted above, by taking a look at the last century, decade by decade. He next considers the goals we hope to achieve—a progressively larger total national income; a progressively wider division of national income; individual rewards based primarily on work performed; increasing economic security; maximum development of the capacities of every individual; and opportunity for every capable individual to earn his own income. He then considers our potentials for achieving those goals and the national policy needed to realize them.

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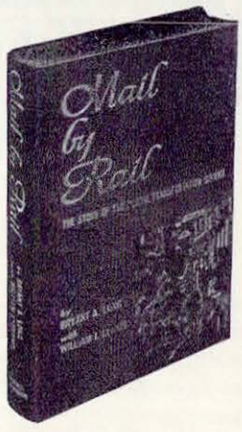

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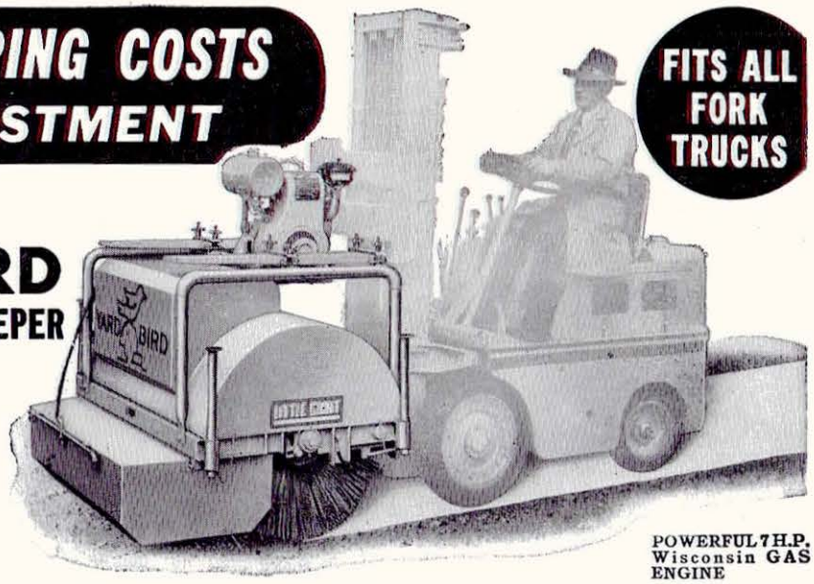

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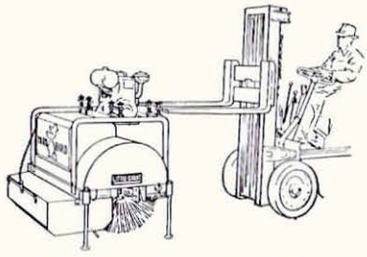

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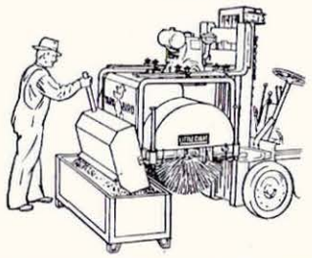

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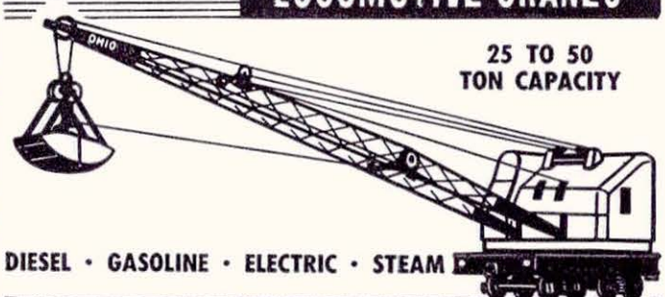

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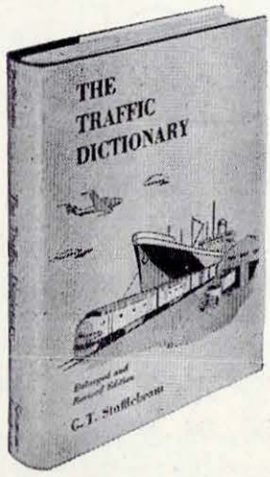

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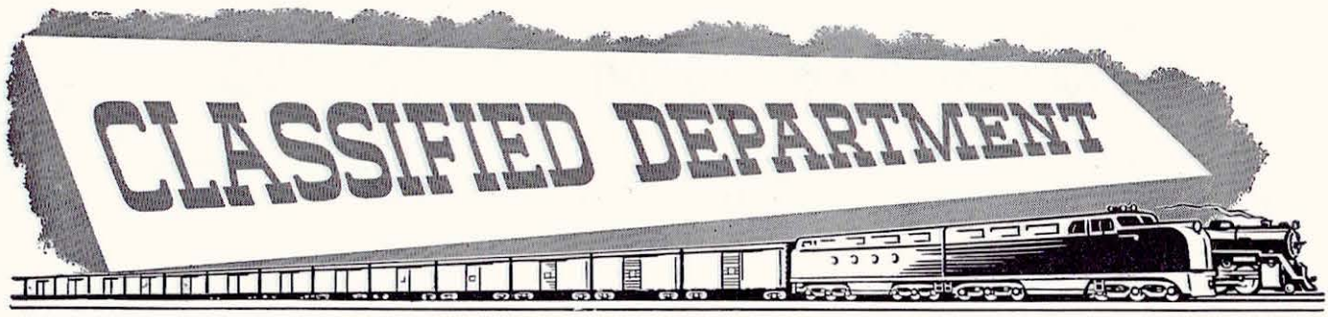

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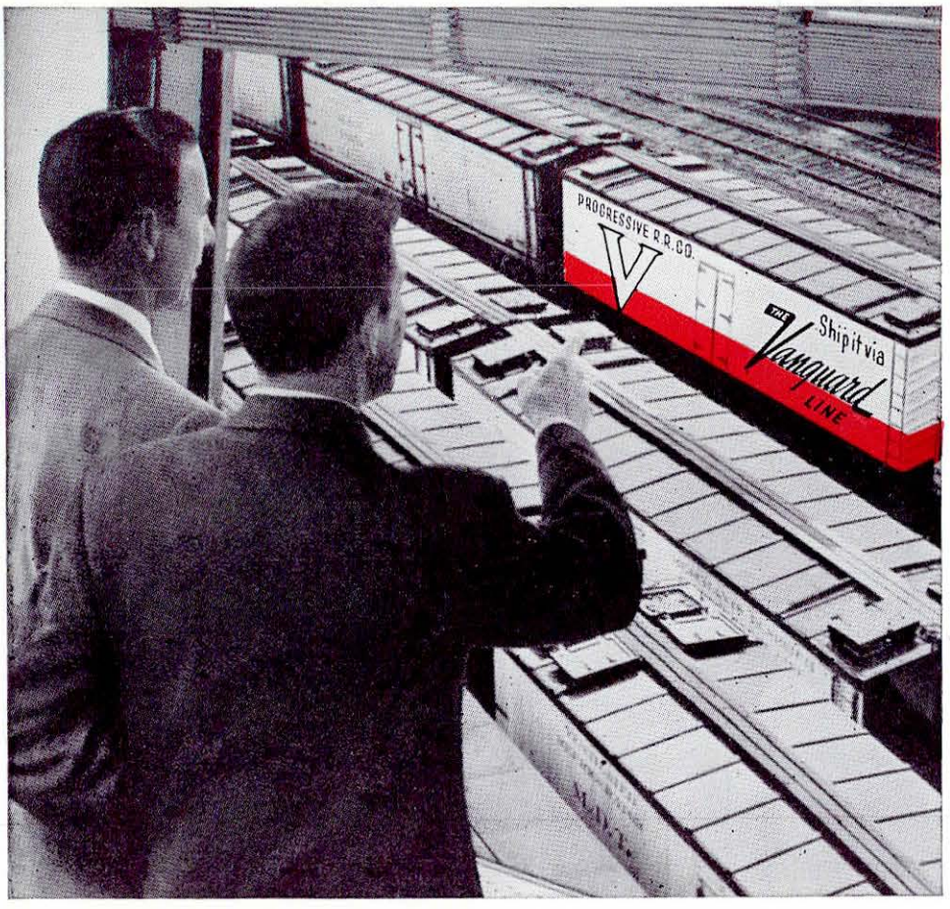

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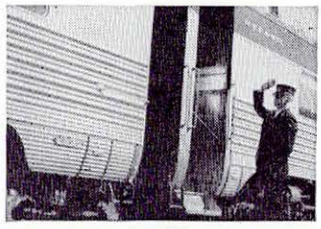
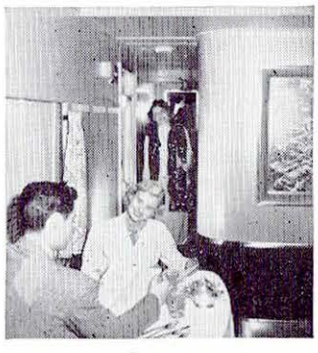
Finish Facts from DU PONT

NICKEL PLATE goes after new business with modern DULUX-finished equipment



Operating about 2,192 miles of railroad, the Nickel Plate Road is today making a bid for a share of the midwest's growing passenger traffic with a change-over to ultra-modern equipment. Among the line's latest additions are the cars above—smartly finished with DULUX.

During the year these cars will undergo all sorts of weather on runs from Buffalo and Cleveland to Chicago, and from Cleveland to St. Louis—weather that the DULUX finish is scientifically formulated to take.

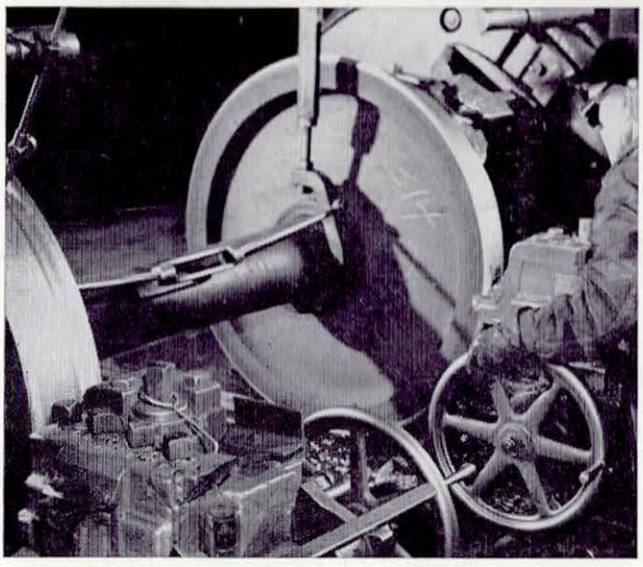


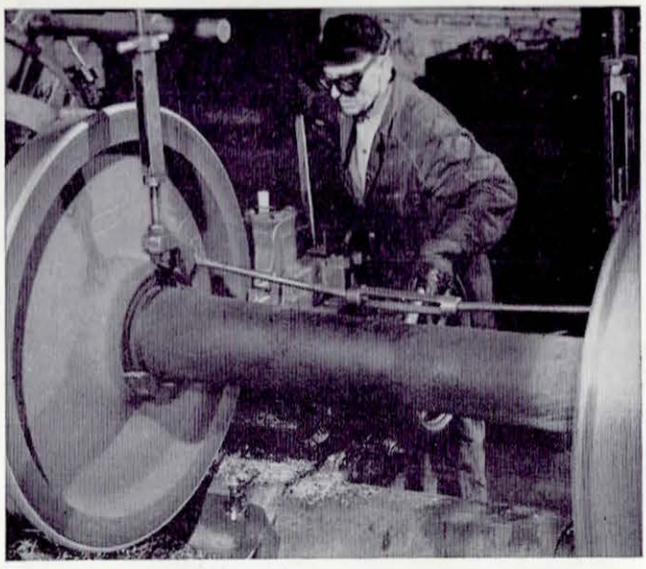
Soft, restful DULUX colors create a club atmosphere in the Nickel Plate's new bedroom-diner-lounge car. Really durable, a DULUX interior finish can be washed time and time again.

A long-time user of Du Pont Railroad Finishes, the Nickel Plate is one of the many leading American railroads that demand finishes of proved quality. From experience they know that they can depend on a finish made by Du Pont.

NO LUBRICANT NEEDED

from wheel-turning . . . to wheel-turning





with grease-lubricated TIMKEN® bearings

OPERATING tests on passenger cars and diesels in regular service prove grease-lubricated Timken® bearings go safely from wheel-turning to wheel-turning without a drop of additional lubricant!

One railroad ran grease-lubricated Timken bearings in passenger cars over 200,000 miles without adding any lubricant! Three other leading railroads have already made the switch from oil to grease in their Timken bearing equipped passenger cars and diesels. And another dozen railroads are getting favorable results from wheel-turning to wheel-turning tests of grease-lubricated Timken bearings.

By switching from oil to grease for Timken bearings, railroads are getting new operating savings in passenger car and diesel locomotive equipment. They're eliminating the man-hours previously spent to check and add lubricant. And they're making big savings on the lubricant itself.

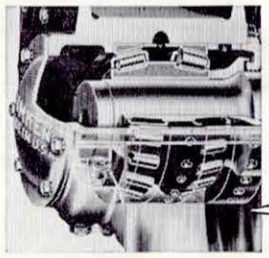
There's no need to buy extra journal parts or modify the bearings to convert Timken bearings from oil to grease lubrication. What's more, railroad operating tests show that Timken bearings are the only journal bearings using AAR-approved grease that can consistently go from wheel-turning to wheel-turning with no additional lubricant.

Why not let us help you investigate the cost-saving advantages of Timken bearings on your railroad? Write The Timken Roller Bearing Company, Canton 6, Ohio. Canadian plant: St. Thomas, Ontario. Cable address: "TIMROSCO".

TIMKEN

TRADE-MARK REG. U. S. PAT. OFF.

TAPERED ROLLER BEARINGS



GREASE ME AT ONE WHEEL-TURNING ...FORGET ME 'TIL THE NEXT!

NOT JUST A BALL ◯ NOT JUST A ROLLER ▭ THE TIMKEN TAPERED ROLLER ▱ BEARING TAKES RADIAL ◎ AND THRUST →◎← LOADS OR ANY COMBINATION ✳